#EI-1931
RS

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VIA UPS OVERNIGHT MAIL

February 10, 2006

Mr. John W. Murphey
New Mexico Historic Preservation Division
Department of Cultural Affairs
228 East Palace Avenue, Room 320
Santa Fe, NM 87501

Re: Surface Transportation Board ("STB") Docket No. AB-6 (Sub-No. 428X); BNSF Railway Company ("BNSF") Abandonment between French, New Mexico and York Canyon, New Mexico

Dear Mr. Murphey:

Enclosed is a report documenting the nine concrete culverts on the York Canyon Branch of the BNSF Railway Company, prepared by James W. Steely (historian with SWCA Environmental Consultants). This report was prepared pursuant to Condition #7 of the Environmental Assessment served on June 24, 2005, in the above-referenced docket (copy enclosed).

The New Mexico Historic Preservation Division (SHPO) has identified the presence of nine (1910-1921) concrete-arch culverts on or near the proposed abandonment. SHPO has recommended that a qualified historian inspect the nine culverts to determine their eligibility for listing in the National Register of Historic Places under Criterion A.

BNSF is requesting SHPO's concurrence of this report and advice as to whether this fulfills the Section 106 process.

If you have any questions, please contact me at (817) 352-2376 or John.Sims@BNSF.com.

Sincerely,

John A. Sims
Certified Paralegal

Enclosures

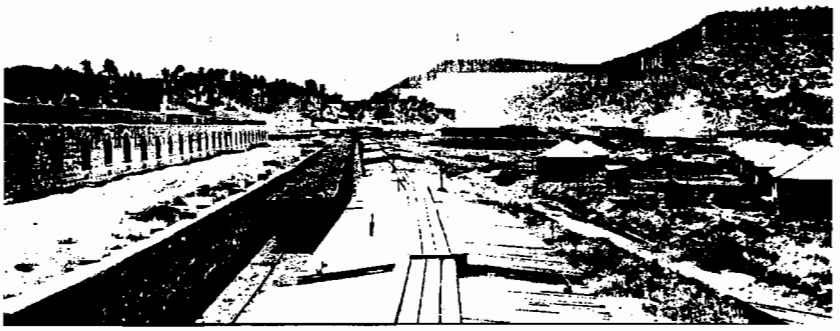
cc: Rini Ghosh, STB (with enclosures)
Rich Batie

York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
New Mexico

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

MEASURED DRAWINGS



Dawson, New Mexico, c. 1906, looking northwest (?), from El Paso & Southwestern Railroad cartops, with new Stag Cañon Fuel Company (Phelps Dodge) coke ovens on left and new housing on right. Photo from Carlos A. Schwantes *Vision & Enterprise : Exploring the History of Phelps Dodge Corporation,* University of Arizona Press, Tucson, 2000.

NEW MEXICO STATE HISTORIC PRESERVATION OFFICE
Historic Preservation Division
Office of Cultural Affairs
228 East Palace Avenue
Santa Fe, NM 87503

York Canyon Branch, BNSF Railway
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NMSHPO No. ____

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NEW MEXICO STATE HISTORIC PRESERVATION OFFICE

YORK CANYON BRANCH CULVERTS, BNSF RAILWAY

NMSHPO No. ____

Location:	French to Dawson Between Interstate Highway 25 and US Highway 64 Colfax County New Mexico USGS Quadrangle, UTM 13 Coordinates: Culvert MP 1.3 537,747.5E – 4,036,531.4N; Culvert MP 17.2: 521,130.2E – 4,054,944.7N. (see page 15 for complete UTM list)
Dates of Construction:	1902, 1910, 1911, 1914, 1915, 1921
Engineer:	Dawson Railroad; El Paso & Southwestern Railroad
Present Owner:	BNSF Railway
Present Use:	Embargoed rail corridor
Significance:	The nine 1910–1921 concrete-arch culverts of the railroad branchline, from the BNSF Railway mainline at French station 18 miles to the ghost town Dawson, are intact standard railroad structures of the early 20th century, and surviving features of several once-large empires, from the Eddy Brothers of El Paso, to the Phelps Dodge Corporation, to Southern Pacific Railroad, to Kaiser Steel, to BNSF's predecessor Atchison, Topeka & Santa Fe Railway.
Historian:	James W. Steely, January 2006

Project Information:

In January 2006, SWCA Environmental Consultants documented the concrete culverts of the York Canyon Branch of the BNSF Railway, with the assistance of BNSF Railway officials. Project manager Lance Lundquist coordinated photographer and draftsman Billy Crews and historian Steely to complete the documentation to the requirements of the New Mexico SHPO, as mitigation for abandonment in 2006 by the BNSF Railway. A number of secondary sources supplied the historic context for the historical narrative; original photographs and drawings, and their digital files, are at the New Mexico SHPO.

Table of Contents

Introduction

BNSF Railway proposed in May 2005 to abandon its 36.9-mile long, 150-200 feet wide, branchline between French and York Canyon, New Mexico (BNSF 2005a). This proposal required approval of the Surface Transportation Board (STB) as a federal undertaking. The STB in turn required compliance with several federal regulations, including the National Historic Preservation Act of 1966, as amended, and its Section 106 governed by the Advisory Council on Historic Preservation and represented in each state by the State Historic Preservation Office (SHPO).

According to the Advisory Council, "Section 106 applies when two thresholds are met: 1) there is a Federal or federally licensed action, including grants, licenses, and permits, and 2) that action has the potential to affect properties listed in or eligible for listing in the National Register of Historic Places" (ACHP 2006). In reviewing BNSF's proposed undertaking on behalf of the Advisory Council, the New Mexico SHPO evaluated the York Canyon branchline as potentially eligible for the National Register (SHPO 2005).

The SHPO concluded that the nine (9) concrete culverts on the line, built between 1910 and 1921, were eligible for listing in the National Register, and that the abandonment would "effect" these historic resources (SHPO 2005). The Advisory Council states that "Effects are resolved by mutual agreement, usually among the affected State's State Historic Preservation Officer...the Federal agency [STB], and any other involved parties [BNSF]" (ACHP 2006).

The SHPO required that BNSF resolve (mitigate) the effects on the culverts through documentation (SHPO 2005). BNSF agreed to the SHPO's requirements of:

A. Photographs of each culvert resulting in 8"x10" archival prints. Initial requirements of 35mm negatives adjusted to digital images and files on compact disk, resulting in machine prints produced with 100+-year-life dyes.
B. Measured drawings for each culvert, depicting significant details of each culvert.
C. Written description following the standards of HABS/HAER (Historic American Buildings Survey/Historic American Engineering Record, programs of the National Park Service) documentation, providing descriptions and measurements of each culvert.
D. Written history following the standards of HABS/HAER documentation, including dates, builders, and use of the railroad corridor. The SHPO required original materials when possible (no primary source materials could be found, but a number of secondary sources contributed to a substantial history), footnotes, and bibliography.
E. Copies of all these materials in a report provided to the SHPO, New Mexico Historic Preservation Division (HPD).

In January 2006, BNSF retained SWCA Environmental Consultants to document the concrete culverts of the York Canyon Branch of the BNSF Railway. Project manager Lance Lundquist coordinated photographer and draftsman Billy Crews and historian Steely to complete the documentation to the requirements of the New Mexico SHPO.

Physical Description of the Resource

The York Canyon Branch of the BNSF Railway is a 36.9-mile railroad branchline between the railway's mainline at French (an official station but never a developed community), New Mexico, running northwest along the Vermejo River canyon to the coal veins of York Canyon in the Sangre de Cristo Mountains.

The rail line is an earthen grade (roadbed including cuts and fills) of relatively consistent width—to accommodate standard-gauge track configuration of ballast, crossties and rails—and consistent gradient—to follow the gently rising Vermejo River and its tributary in York Canyon.

The geographical characteristics (typography and climate) of the Vermejo River require sturdy water passages under the rail line for accumulation from occasional heavy rains and snow along its drainage. In some cases, vehicular traffic under the rails was accommodated as well. The concrete culverts, all consisting of cast-in-place concrete-arch passages with solid triangular wing walls at each corner to support the railroad roadbed, have protected the roadbed from erosion since 1910. Later dates on culverts of 1911, 1914, 1915, and 1921 might indicate destructive rain events in those years requiring repairs and improvements to the line with additional culverts.

Layout of the Site

The rail line is confined within a 150-feet to 200-feet-wide right of way, varying with topography and repose angles of the roadbed, wider at natural ground level for high grades and narrower at low grades. The maximum 200-feet right of way widths probably occur at the culverts, which protect the highest roadbeds and require more property for their lengthy wing walls.

The nine concrete culverts accommodate minor drainages into the Vermejo River, and some vehicular underpasses. These drainages flow northeasterly under the railroad and through the culverts between French and Colfax, where the rail line crosses the Vermejo River. Between Colfax and Dawson, original terminal of the rail line, drainages flow southwesterly under the railroad and through the culverts.

The rail line and its culverts originally accommodated a busy and somewhat populated industrial corridor between Dawson and French, 18 miles southeast (and before 1952, between Dawson and Tucumcari, 132 rail miles to the southeast) (Myrick 1990:91). In 2006 the rail line shared a lonely high-desert environment between Dawson and French with intersecting Interstate Highway 25 and US Highway 64. The rail line by the late 20th century, outside of the 1960s coal mine and mill in York Canyon, shared human activity only with scattered ranch houses, isolated houses, and a small concentration of residents in Maxwell, New Mexico, north of French on the Canadian River.

Description of Engineering Aspects, Placed in an Engineering Context

Railroad engineering, as a branch of the civil engineering profession, matured to a sophisticated level by the late 19th century, in the United States and in other developing nations throughout the world. U.S. railroads that hastily built major transcontinental lines after the Civil War continually improved those lines with new bridges, better roadbeds, and often more favorable alignments, as profits allowed reinvestment in permanent infrastructure. Railroad engineers generally learned from experience how, after decades of operation and extreme weather, to build more durable roadbeds and track.

The typical historic American railroad system of laying track involves, constructed up from the natural ground level: 1) linear grade of compacted material, usually scraped or quarried nearby, with angled sides for drainage and leveled crown for track structure, 2) crossties typically of hardwood, later with chemical treatment to extend life, 3) ballast of crushed rock or cinders, 4) tie plates of cast steel to seat the rail, 4) T-section, rolled steel rail with a flat base that nestles into the tie plates, and 5) square spikes, passing through the tie plates and securing the rail's flat base against each tie; spikes with beveled points grip wood grain more efficiently than round, pointed spikes. The ballast grips and steadies the ties, which hold the parallel rails apart at standard gauge. The ballast also allows rainwater and melting snow to drain quickly away from the ties, reducing their deterioration in a moist environment.

Aside from specialized bridges, by 1900 railroads developed several standard approaches for crossing sudden low areas along their courses, typically drainages that ran perpendicular to the track. Where wooden pilings (treated tree trunks) were inexpensive, and where the flow of water and debris rarely threatened a lightweight structure, wooden trestles were popular. Where imported wood was not cheap but where water flowed predictably, or where a large area's drainage could be channeled—for some distance along the base of the roadbed, for example—to one small passage, culverts of masonry construction were popular. Culverts could be pre-cast concrete or fired-clay pipe for small applications, or increasingly larger assemblies of stone, brick, or cast-in-place concrete depending on the geography (typography and climate) and availability of materials and labor.

The earliest curved masonry arches date from Roman discovery of the efficient "round" arch—a half-circle with a single-point radius—through Italian Renaissance development of the "composite" arch—a complex curve with multiple radius points. This is also called a "basket" or "basket handle" arch in reflection of a common lifting profile. Masonry arches can be assembled of stone, though highly skilled labor is required in shaping several specialized stones to achieve a durable arch. Masonry arches can also be assembled of brick, requiring less skill but availability of the semi-durable materials. And masonry arches can be cast in concrete, when material and labor costs allow, resulting in the most durable structure.

Since railroads once employed large "gangs" of laborers specialized in constructing and maintaining their properties, and railroads could haul tremendously heavy materials and machines, standardized construction of concrete became very popular. The industrial process of combining and mixing materials in the field, along with the labor-intensive task of assembling temporary wooden and metal formwork for casting, was possible in the most remote places...as long as the railroad reached there. Along with a myriad of "standard" plans and approaches to building and maintaining their systems, larger railroads engineered, drafted, and distributed plans for concrete culverts.

The Atchison, Topeka & Santa Fe Railway (ATSF or Santa Fe) in the early 20th century issued scores of standard plans to its own construction crews (called "bridge and building gangs") and contractors. The ATSF did not build the original grade and culverts that it later utilized between French and Dawson, but as a western U.S. railroad with similar practices to its rival Southern Pacific Railroad—which in turn inspired the original Dawson Railway and its associated El Paso & Southwestern Railroad—its use of standard plans is typical during the same time period. If the El Paso & Southwestern Railroad, operator of the French-to-Dawson line and builder of the 1910–1921 culverts, utilized standard plans, they were not located during the 2006 documentation project. The most likely repository of any such plans is the California State Railroad Museum or the Bancroft Library, University of California at Berkeley (CSRM 2006).

The ATSF drafted several "Standard Concrete Arch Culvert" designs in 1910, ranging from 12-feet openings (6-feet radius, single-point arch) to 24-feet openings (System Standards 1978). Among its instructions, ATSF noted:

> The axis of the Arch will generally be a right angle to the [centerline] of the track. In special cases with the approval of the [Chief] Engineer, the Arch may be built on skew. The flow line will conform with the grade of the stream as nearly as possible.
>
> Where fills [roadbed] do not exceed 25 feet in height, [driven, wooden] Piles [at the base of the concrete foundation] will be used in such numbers and lengths as the nature of the ground requires. Where necessary the Foundation must be widened at the base sufficiently to uniformly distribute the weight over the foundation piles. The arrangement shown on Plan is merely tentative [meaning that many field decisions were made for final designs].

The ATSF's 1910 plans demonstrated that a typical concrete-arch culvert contained a massive concrete core, itself curved to a specific solid radius above the open arch below, that supported the track above and allowed internal drainage of moisture from the roadbed. These plans included a detailed sheet on the amount of materials needed to construct arch culverts and other details of construction. Another sheet illustrated the date-lettering required for casting the construction date into the bridge as part of the formwork (System Standards 1978).

The primary visible difference between the 1910 ATSF standard culvert plans and the 1910-1921 York Canyon Branch culverts is the employment of the "round" arch by the Santa Fe, contrasting with the "composite" arch utilized over the nine drainages between French and Dawson. For both designs, a field crew constructed elaborate wooden formwork for the solid culvert casting, matching the height of the new or existing earthen roadbed. The arch itself resulted from the most specialized wooden formwork, called "centering" that created the shape of the arch for the length of the culvert. Other "gang" members, or contractor crew, mixed and poured the concrete from a portable plant on the advancing railroad. After the concrete set, the gang removed the wooden centering and other forms, and probably reused them at the next similar-dimension culvert construction.

History of the Resource, Placed in Historic Context

Dates of Construction and Changes

The Dawson Railway extended the services, and brought back coal for locomotives and copper smelting, of the El Paso & Northeastern Railway (EPNE, and its owner New Mexico Railway & Coal Company, NMRC) when it carried its first coal from the mines at Dawson in 1902. The railroad's initial construction, on the alignment of the nine surviving concrete culverts, connected only with the Santa Fe mainline at French for its first outlet. But the EPNE and NMRC owners, Charles B. and John A. Eddy of El Paso, intended to connect the Dawson mines with their own mainline at Santa Rosa, via Tucumcari. So construction crossed on a grade-separation span over the ATSF, and continued south-southeast on the ultimate 132-mile branchline through early 1903, when through service commenced from Dawson southeast to Tucumcari, thence to Santa Rosa and El Paso (Myrick 1990:91–95).

As noted above, the earliest York Canyon Branch concrete culverts, all consisting of cast-in-place concrete-arch passages with solid triangular wing walls at each corner to support the railroad roadbed, were constructed in 1910. Later dates on culverts of 1911, 1914, 1915, and 1921 probably indicate destructive rain events in those years requiring repairs to the line with additional culverts. All the 1910–1921 dates imply a continual program of improving the original 1902 line for durable accommodation of permanent traffic.

The subsequent construction dates also reflect the most productive period of the Phelps Dodge-owned coal mining and preparation plant at Dawson, just before and during World War I (Myrick 1990, Schwantes 2000). While demand and prices, for both coal and Phelps Dodge copper that the coal helped produce, plummeted after war's end in 1918, U.S. railroads received federal government payment for wartime depreciation (when the U.S. Railroad Administration controlled American railroads) in the early 1920s. The 1921-dated culverts at Mile Posts (MPs) 1.3 and 7.8 might represent the last major investment possible by the railroad following the crush of business during World War I. They could also represent the final adjustment for a very successful physical plant by a skilled maintenance crew.

When the Southern Pacific Railroad (SP), final operator of the original branchline from Tucumcari northwest to Dawson, ceased operation of the 132-mile line in 1952 (Glischinski 1997:54), track was removed but the culverts obviously remained in place. The ATSF constructed its 37.5-mile York Canyon Branch in 1966, utilizing for its first 18 miles the old Dawson Railway grade and its 1910–1921 culverts, attesting to their profoundly durable original construction.

Use and Operation

Any New Mexico map of railroads and natural resources reveals the strategies of competition between rival major railroads Santa Fe and Southern Pacific. The Santa Fe's first line across the state entered in 1878 at Raton Pass and exited far to the southwest at Gallup. The Santa Fe's locomotives at that time consumed large volumes of coal, but for a number of reasons the railway did not promote development of the particular known low-sulfur bituminous coal deposits along the Vermejo River very close to its transcontinental line. The ATSF did tap several mines around Raton, and in 1901 a large deposit at Madrid between Santa Fe and Albuquerque (ATSF 2006). By 1895 further exploration revealed the vast extent of the Dawson coal deposits (WPA Guide 1989:270). And by 1900 Charles and John Eddy and their partners eyed the considerable coal at Dawson as a potential fuel for their own transcontinental railroad strategies, and for copper-smelting customers in their hometown and west along the border with Mexico.

Coal could be burned directly in steam engines, including railroad locomotives, or carbonized in large oven chambers to make coke, ideal for the clean-burning heat required in copper smelting. The coal mills at Dawson eventually included huge banks of stone ovens to manufacture coke for far-distant smelters (Schwantes 2000). Thus the industrial operations at Dawson supplied coal and coke to far western Texas, as well as to copper operations in southern New Mexico and Arizona, via the Dawson Railway built as a branchline for the Eddys' El Paso & Northeastern Railway (Myrick 1990).

The Phelps Dodge Corporation bought the Dawson coal mines in 1905 along with the EPNE Railway and the NMRC holding company. Phelps Dodge for several years named its Dawson operation the Stag Cañon Fuel Company. Dawson's and other New Mexico rail operations moved under Phelps Dodge's own young El Paso & Southwestern Railroad, and the copper company commenced construction of a huge processor, more coke ovens, and a model company town at Dawson (Myrick 1990, Schwantes 2000, Legends 2006).

Phelps Dodge's operation from Dawson, spanning the Santa Fe at French, to Tucumcari and south to El Paso, hauled heavy trains of coke and coal during record-setting years of New Mexico coal production. Statewide coal production amounted to 1 million tons in 1899; by 1918 and the last year of World War I the state surpassed 4 million tons. The market then dropped and rail service to coal deposits declined considerably, but most mines still produced, and the towns along the Dawson branchline still used the railroad as their primary transportation link.

In 1924 Phelps Dodge sold its 1,200-mile EPSW Railroad to the Southern Pacific Railroad, and SP assumed operation of the Dawson branch. Coincidentally, SP upgraded the mainline connection with the Rock Island at Santa Rosa, with trains exchanging crews and locomotives at Tucumcari, into a major transcontinental line run by locomotives fueled with Dawson coal (Myrick 1990:103).

Phelps Dodge switched to natural gas in 1931 for fuel at its smelting operations in Arizona and Mexico, but coal from the Dawson operation still supplied a number of steam-fuel applications. World War II provided another boom market for coal and the Dawson Branch through 1945, but the familiar cycle closed the whole operation in 1950 (Legends 2006). Southern Pacific pulled up its rails in 1952 and the online stations and towns of Dawson, Colfax, Maxwell and French all but died.

In 1955 Kaiser Steel Company purchased almost 203,000 acres of coal lands in and around York Canyon, a drainage of the Vermejo River about 19 miles upstream from Dawson (Bryant 1974:297). Kaiser operated a World War II-era steel mill in Fontana, California, along US 66 (and later Interstate Highway 10) near Ontario east of Los Angeles, and sought a long-term source of coking coal for its plant. Kaiser began development of the new mine in 1964, including negotiations with the Santa Fe Railway to move the coal to California.

Santa Fe acquired the old Dawson/EPSW/SP railroad grade from its old crossing of the mainline at French 18 miles to Dawson, then graded a new right of way 19 miles deeper into the Vermejo River canyon and ultimately York Canyon. The Santa Fe opened the new line in 1966 and operated "unit" coal trains, maximum-length and -weight manifests carrying a single product, off and on for the next four decades across the 1910–1921 concrete-arch culverts. The 1960s operation moved 8,400 tons of coal per train on its 2,164-mile round trip, totaling 700,000 tons of coal per year delivered to the single customer (Bryant 1974:297). The Kaiser Fontana Mill closed in 1983 and the York Canyon Branch sat idle but intact for a decade. New customers for the railroad-delivered coal appeared in 1992, including a power plant in Wisconsin (Glischinski 1997:54, 56). But trains again ceased operations in the early 2000s, with no more coal to haul economically.

Timeline

1841 – Charles Beaubien and Guadaloupe Miranda of Taos, New Mexico, apply to New Mexico Governor Manuel Armijo for a land grant in the Sangre de Cristo Mountains.

1846 – Lucien Bonaparte Maxwell marries one of Beaubien's daughters.

1846 – U.S. troops enter New Mexico; U.S. acquires the territory in 1848.

1848 – Beaubien turns all interests in the land grant over to Maxwell.

1869 – John Barkley Dawson buys ranchland in the Vermejo River canyon and its mouth from Maxwell, paying $3,700; Dawson finds bituminous coal on his land surface and sells small quantities to neighbors for fuel.

1870 – Maxwell sells all remaining interests in the multi-million-acre land grant.

1878 – Atchison, Topeka & Santa Fe Railway builds southwest from Raton Pass, and eventually establishes the station of French on the Vermejo River to serve ranches and small irrigation farms; by 1880s the railway opens several coal mines near Raton.

1893 – John Dawson wins a lawsuit over ownership of his land, now surveyed at 20,000 acres.

1895 – Investigations determine huge amounts of coal lie beneath Dawson's Ranch.

1900 – W.H. Bartlett of Chicago buys the half-million-acre W.S. Ranch including Vermejo Park in the Sangre de Cristo Mountains and builds a lavish retreat.

1901 – John Dawson and partner Charles Springer sell all but 1,200 acres of their ranch for $400,000 to the Dawson Fuel Company, a subsidiary of Charles and John Eddy's New Mexico Railway and Coal Company based in El Paso.

1902 – The Eddy brothers' Dawson Railway builds a branch from the ATSF mainline at French 18 miles up the Vermejo River to the new center of coal mining and coking operations and the new community of Dawson.

1903 – The Eddy brothers complete their branchline from Tucumcari to French, securing a 132-mile outlet for their coal to fuel their railroads and reach customers in El Paso and the copper mines of southern New Mexico and Arizona.

1905 – Phelps Dodge (PD) Corporation buys the Eddy brothers' holding company and its railroads and coal interests. PD names its operation Stag Cañon Fuel Company.

1906 – Phelps Dodge transforms Dawson into one of its company towns and constructs enormous coking ovens to prepare coke for its copper smelters in Arizona and Mexico.

1910–1921 – Phelps Dodge's El Paso & Southwestern Railway improves the Dawson Railway's roadbed with railroad-standard concrete culverts along the Vermejo River drainage.

1913 – One of the deadliest mining explosions in U.S. history kills 243 miners inside Dawson Coal Mine No. 2.

1923 – Another explosion and collapse at the Dawson mines kills 121 men.

1924 – Phelps Dodge sells the EPSW Railway and 1,200 miles of lines to Southern Pacific Railroad for $64 million.

1927 – Harry Chandler buys the W.S. Ranch from Bartlett interests; partners are Will Rogers, Cecil B. De Mille, Douglas Fairbanks, Andrew Mellon, and others.

1931 – Phelps Dodge switches to natural gas fuel at its smelters, but still produces coal at Dawson for various fuel applications.

1950 – Phelps Dodge closes the Dawson mines.

1952 – Southern Pacific Railroad abandons the 132-mile Tucumcari – Dawson branchline.

1955 – Kaiser Steel Company buys 203,000 acres of the old Maxwell Land Grant in the Sangre de Cristo Mountains, centered on York Canyon.

1964 – Kaiser Steel commences development of a mine in York Canyon to supply coal to its Fontana, California, steel plant.

1966 – ATSF Railway completes a 37.5 (mileage listed at the time) branchline from French to York Canyon, utilizing 18 miles of the 1902 Dawson Railway roadbed and its 1910–1921 concrete culverts.

1983 – York Canyon mine closes.

1992 – York Canyon mine reopens and operates for another decade.

1992 – Dawson Cemetery, filled with miners killed in the 1913 and 1923 disasters, listed in the National Register of Historic Places.

1995 – Atchison, Topeka & Santa Fe Railway and Burlington Northern Railroad merge, forming The Burlington Northern and Santa Fe Railway Company.

2005 – The Burlington Northern and Santa Fe Railway Company becomes BNSF Railway; BNSF applies to Surface Transportation Board to abandon its 36.9-mile York Canyon Branch.

Bibliography

Advisory Council on Historic Preservation (ACHP)
2006 Electronic document: http://www.achp.gov/aboutachp.html. Accessed 25 February 2006.

BNSF Railway Company
2005a "Before the Surface Transportation Board, Docket No. AB-6 (Sub-No. 428X), Notice of Exemption." May 31, 2005.

BNSF Railway Company
2005b "Before the Surface Transportation Board, Docket No. AB-6 (Sub-No. 428X), Historical Report." May 31, 2005.

Bryant, Keith L., Jr.
1974 *History of the Atchison, Topeka & Santa Fe Railway.* University of Nebraska Press. Lincoln and London.

California State Railway Museum (CSRM)
2006 Search of materials for System Standards of Southern Pacific Railroad and El Paso & Southwestern Railroad. Correspondence by mail. 12 January 2006.

Glischinski, Steve
1997 *Santa Fe Railway.* MBI Publishing Company. Andover Junction Publications. Osceola, Wisconsin.

Harding County
2006 "Harding County, NM." Electronic document: http://www.hardingcounty.org/Mosquero/Mosquero.htm. Accessed 24 January 2006.

Historical Society, ATSF
2006 "A Branchline [Belen Cutoff] Comes of Age----Part Three." Electronic document: http://www.atsfrr.com/resources/burton/Belen.htm. Santa Fe Railway Historical & Modeling Society. Accessed 24 January 2006. Originally published in *Santa Fe Modeler*, Volume 12, Number 3, Third Quarter, 1989.

Legends of America
2006 "Dawson, New Mexico." Electronic document: http://www.legendsofamerica.com/HC-Dawson4.html. Accessed 24 January 2006.

Myrick, David F.
1990 *New Mexico's Railroads : A Historical Survey.* University of New Mexico Press. Albuquerque.

Schwantes, Carlos
2000 *Vision and Enterprise: Exploring the History of Phelps Dodge Corporation.* University of Arizona Press. Tucson.

State Historic Preservation Office (SHPO)
2005 "York Canyon Salvage Conditions, Measures to Mitigate Adverse Effects on Historic Properties." John W. Murphey, SHPO architectural historian. November 8, 2005.

System Standards
1978 *The Chief Way Reference Series, System Standards, Volume Three.* Kachina Press. Dallas, Texas. Includes a series of standard concrete culverts, from 6'-radius openings through 12'-radius, and a lettering guide for casting construction dates into masonry surfaces.

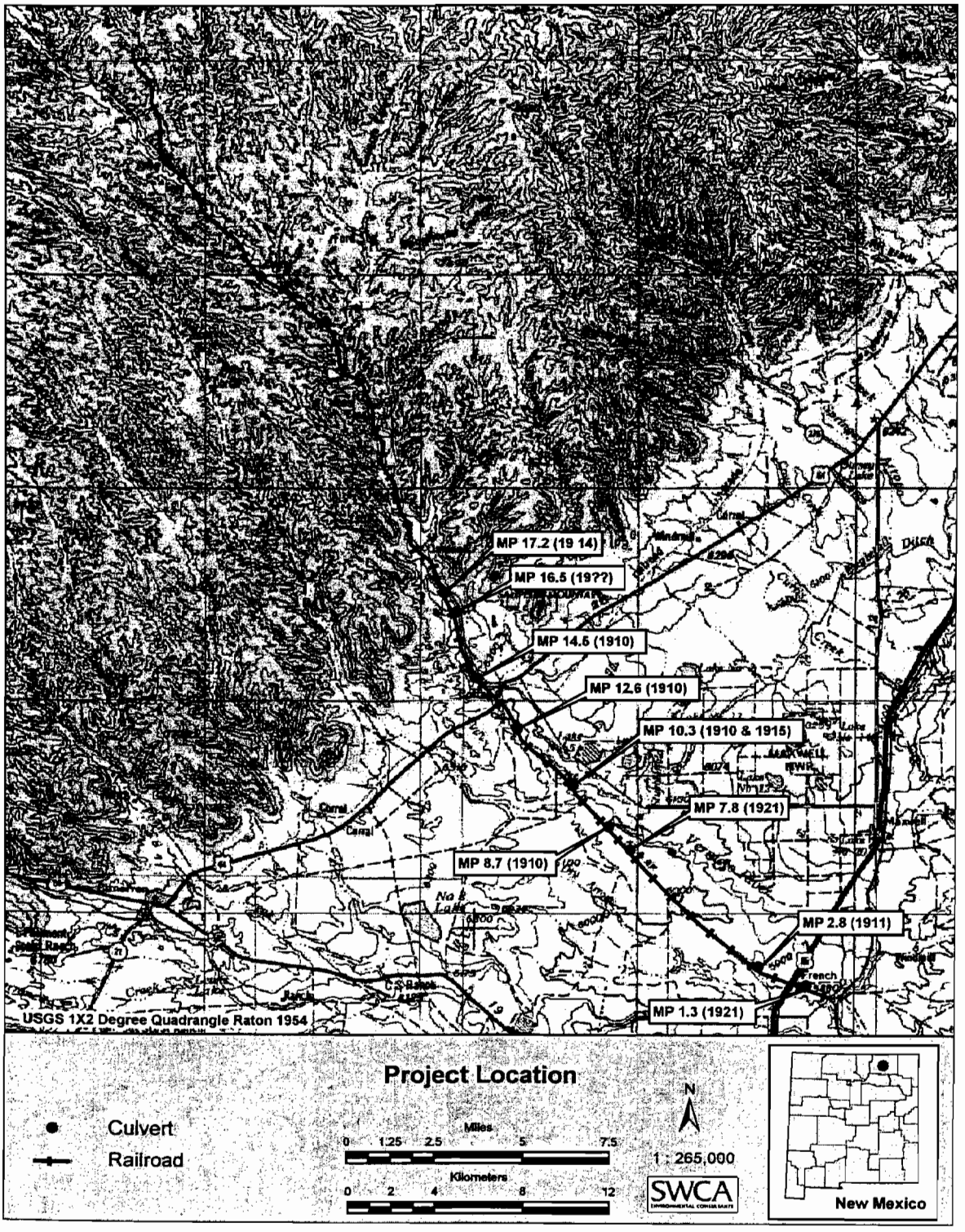
WPA Guide
1989 *The WPA Guide to 1930s New Mexico.* Compiled by the Workers of the Writers' Program of the Work Projects Administration in the State of New Mexico. Originally published in 1940 as *New Mexico: A Guide to the Colorful State.* The University of Arizona Press. Tucson.

Structures of the Linear Complex, MP 1.3 through MP 17.2

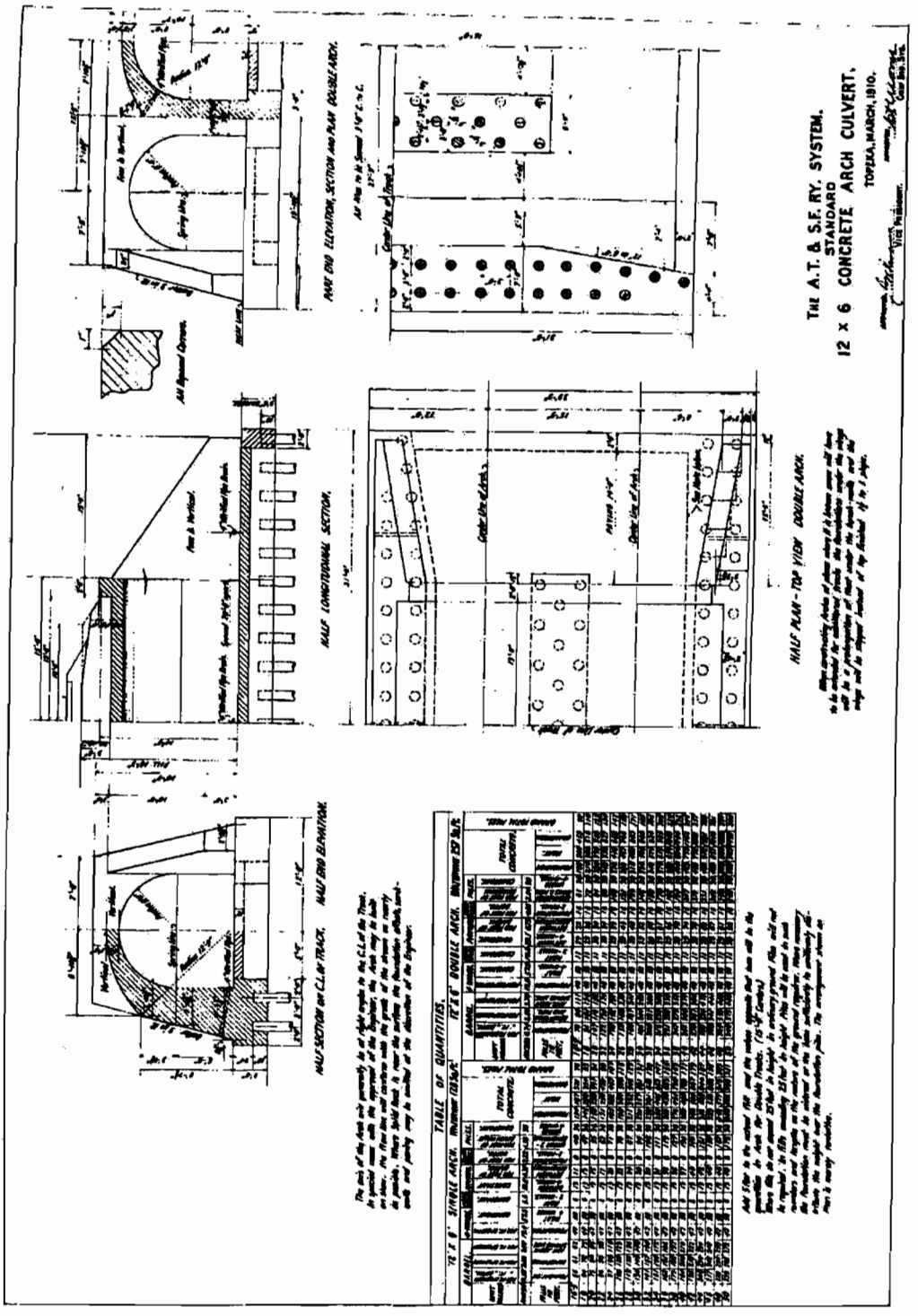
Mile Post	Easting	Northing
17.2	521,130.2	4,054,944.7
16.5	521,616.1	4,054,035.4
14.5	522,588.2	4,050,922.3
12.6	524,436.8	4,048,543.9
10.3	527,005.8	4,045,870.6
8.7	528,665.4	4,043,947.2
7.8	529,678.5	4,042,848.3
2.8	535,553.0	4,037,412.5
1.3	537,747.5	4,036,531.4

UTM NAD27 Zone 13

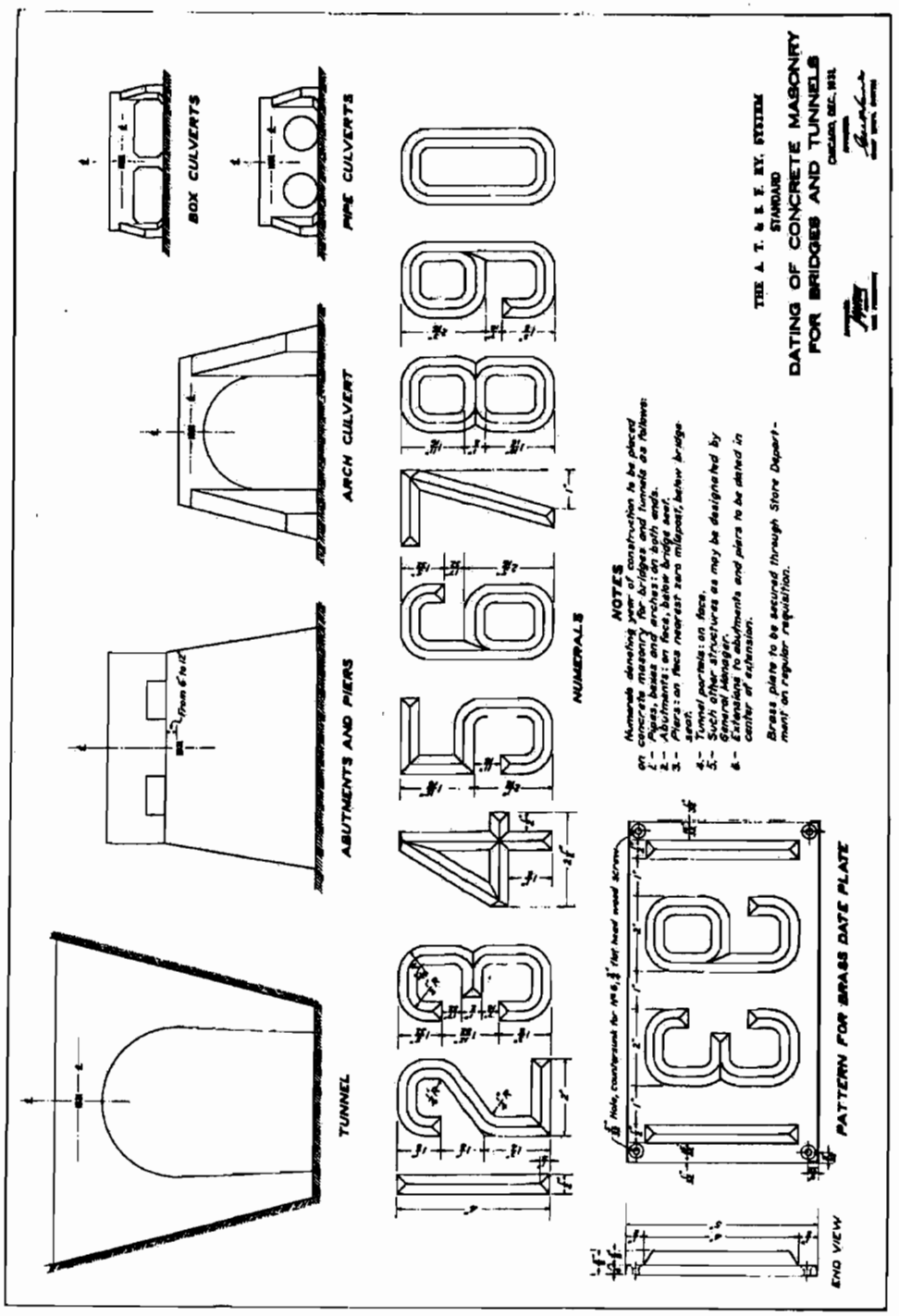
Location Map



AT&SF Railway System Standard Concrete Arch Culvert drawing



AT&SF Railway System Standard Dating of Concrete Masonry drawing



NEW MEXICO STATE HISTORIC PRESERVATION OFFICE

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French to Dawson
Between Interstate Highway 25 and US Highway 64
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Billy Crews, Photographer, January 2006

NM-York Canyon-01	Context View of Culvert MP17.2, View to Northeast
NM-York Canyon-02	Close-up View of Engraved Date "1914", Culvert MP 17.2, View to Northeast
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NM-York Canyon-11	Context View of Culvert MP 14.5, View to Northeast
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NM-York Canyon-30	Context View of Culvert MP 8.7, View to Southwest

NEW MEXICO STATE HISTORIC PRESERVATION OFFICE

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French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
New Mexico

Billy Crews, Photographer, January 2006

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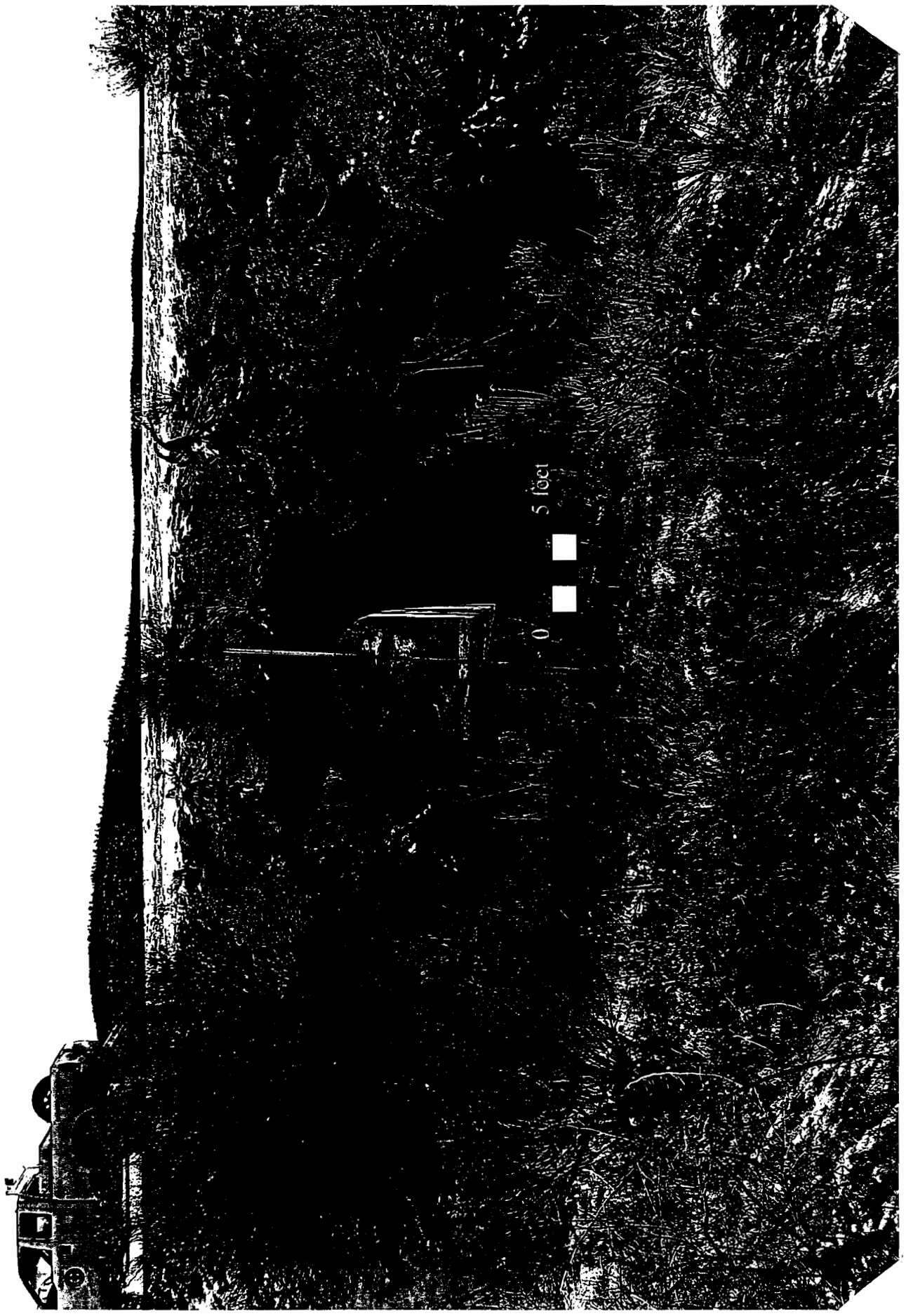

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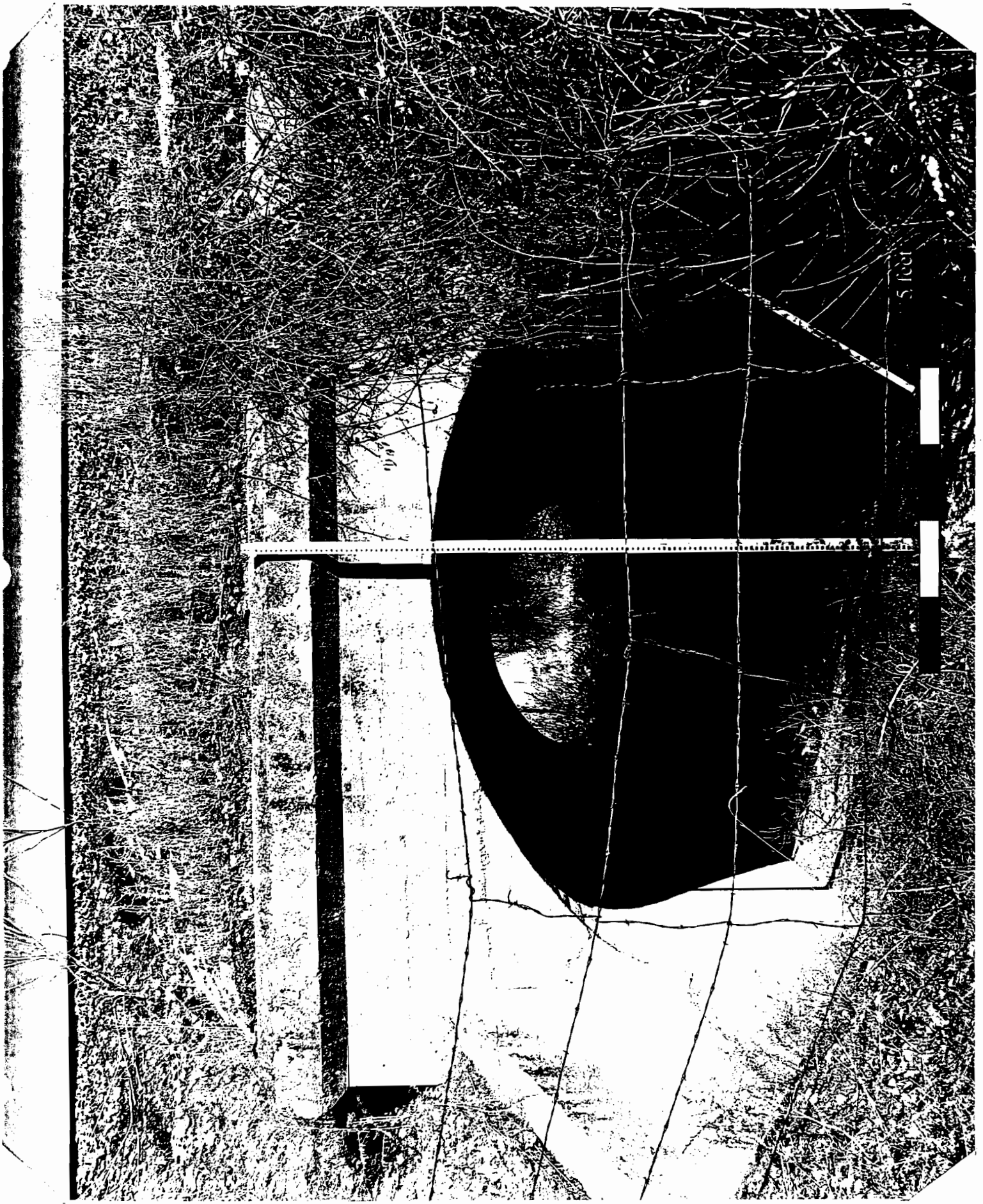

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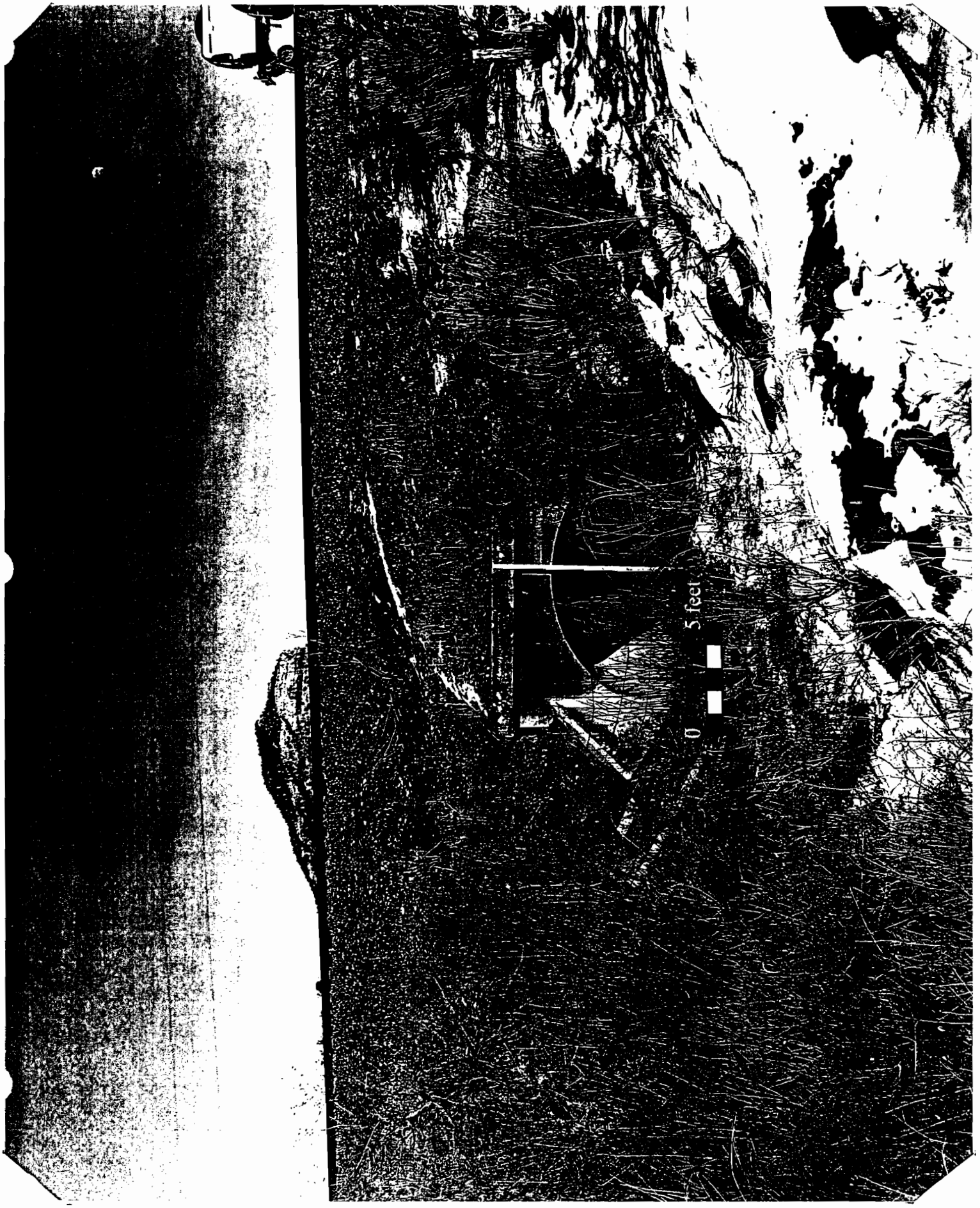

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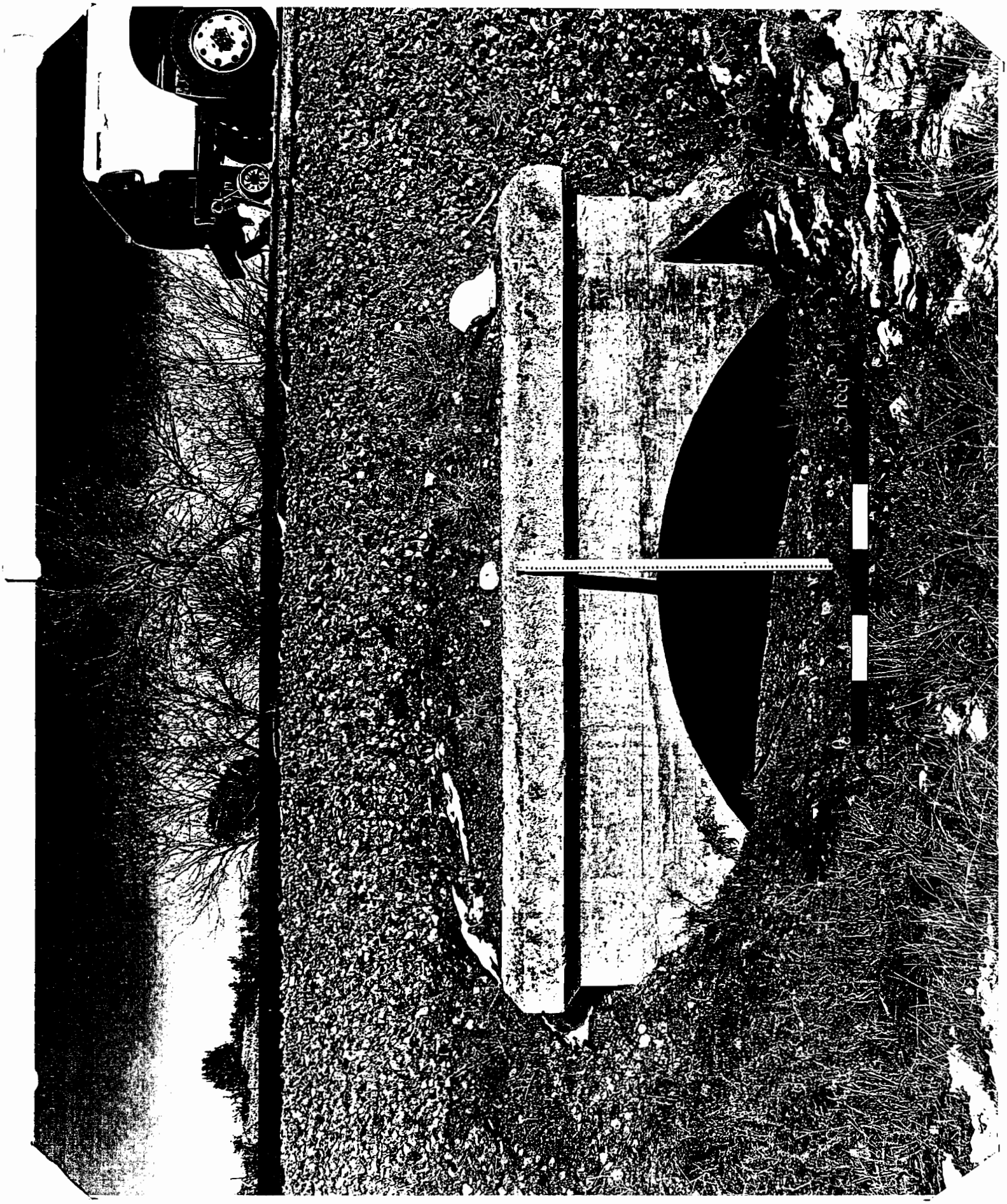

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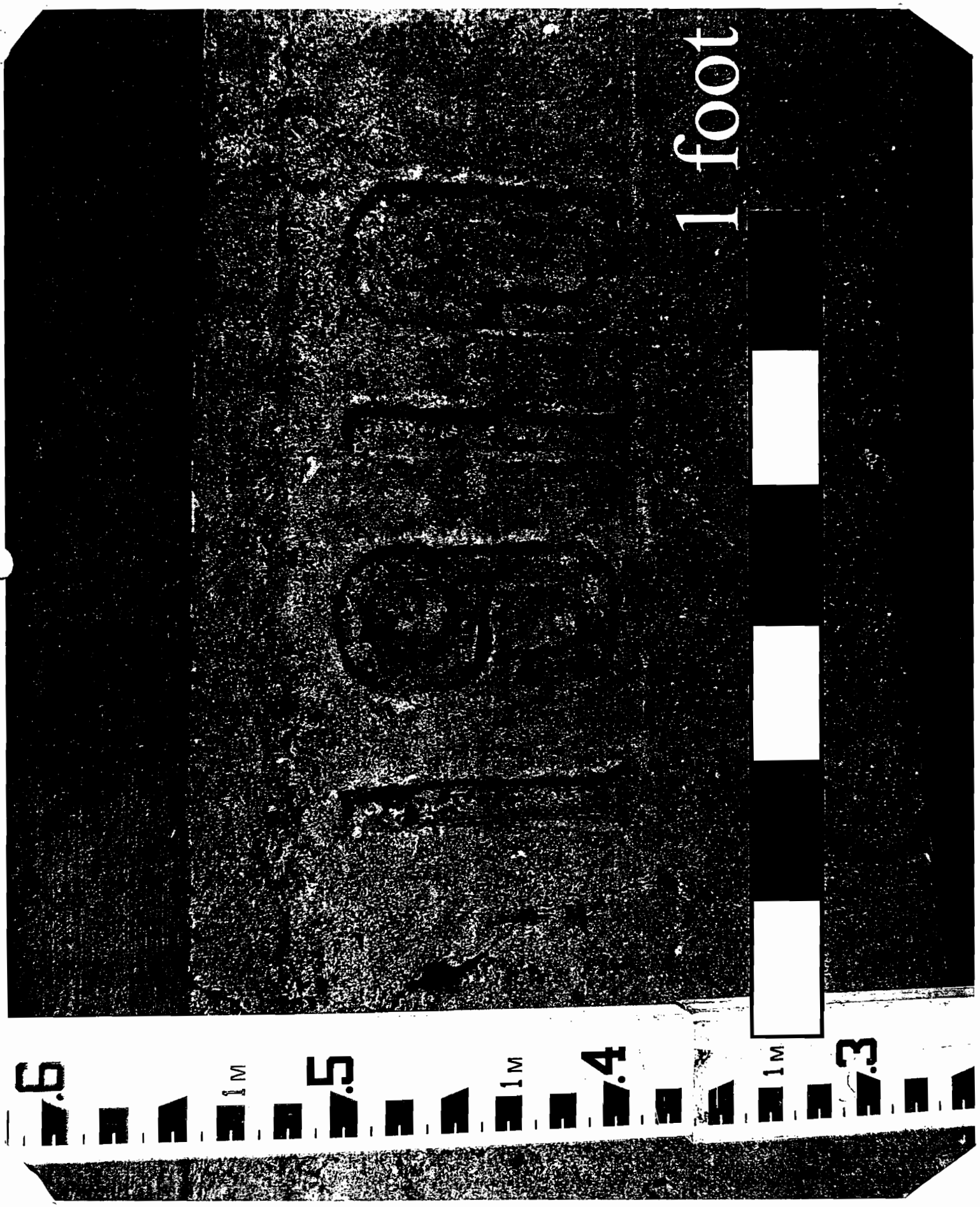

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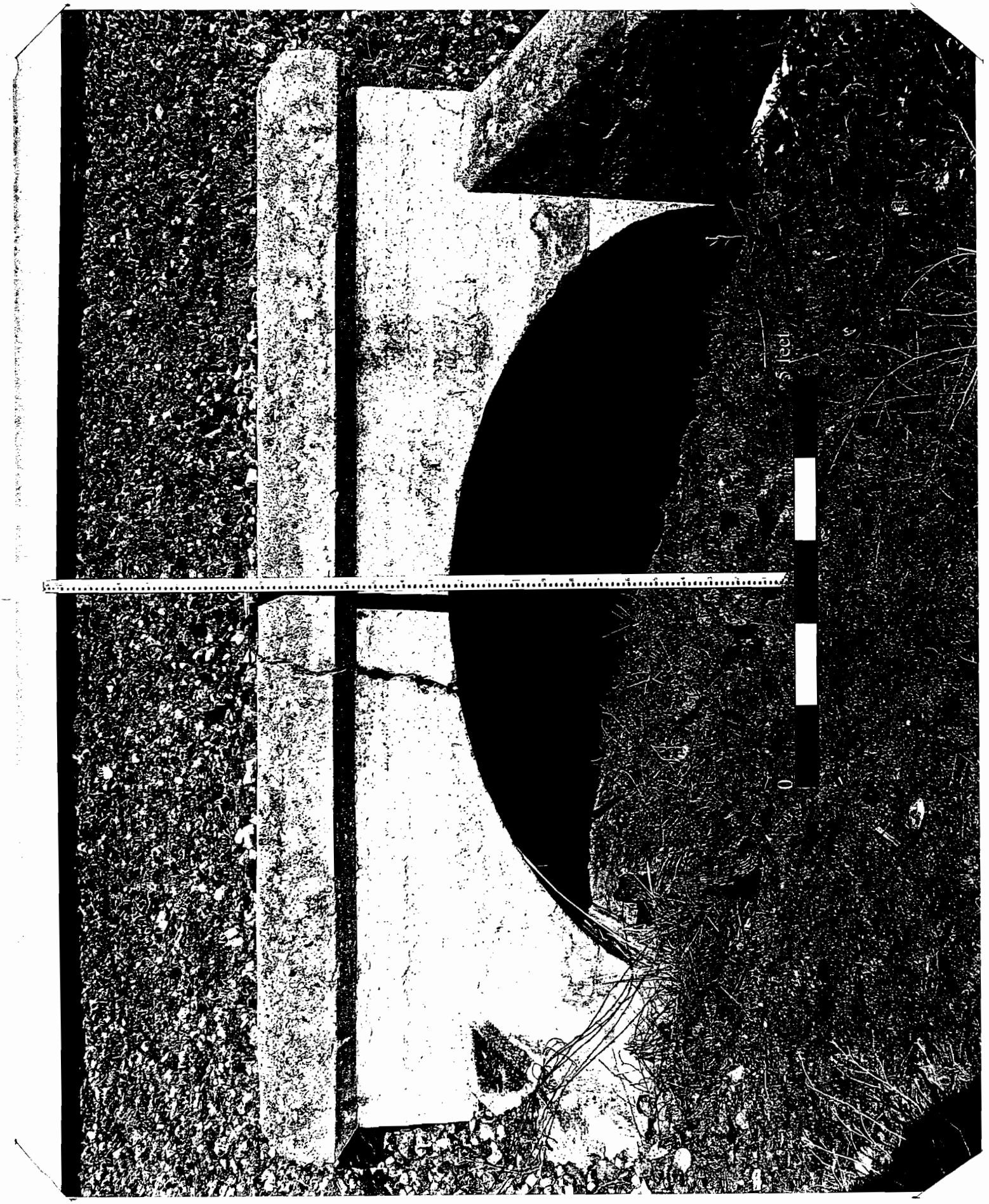

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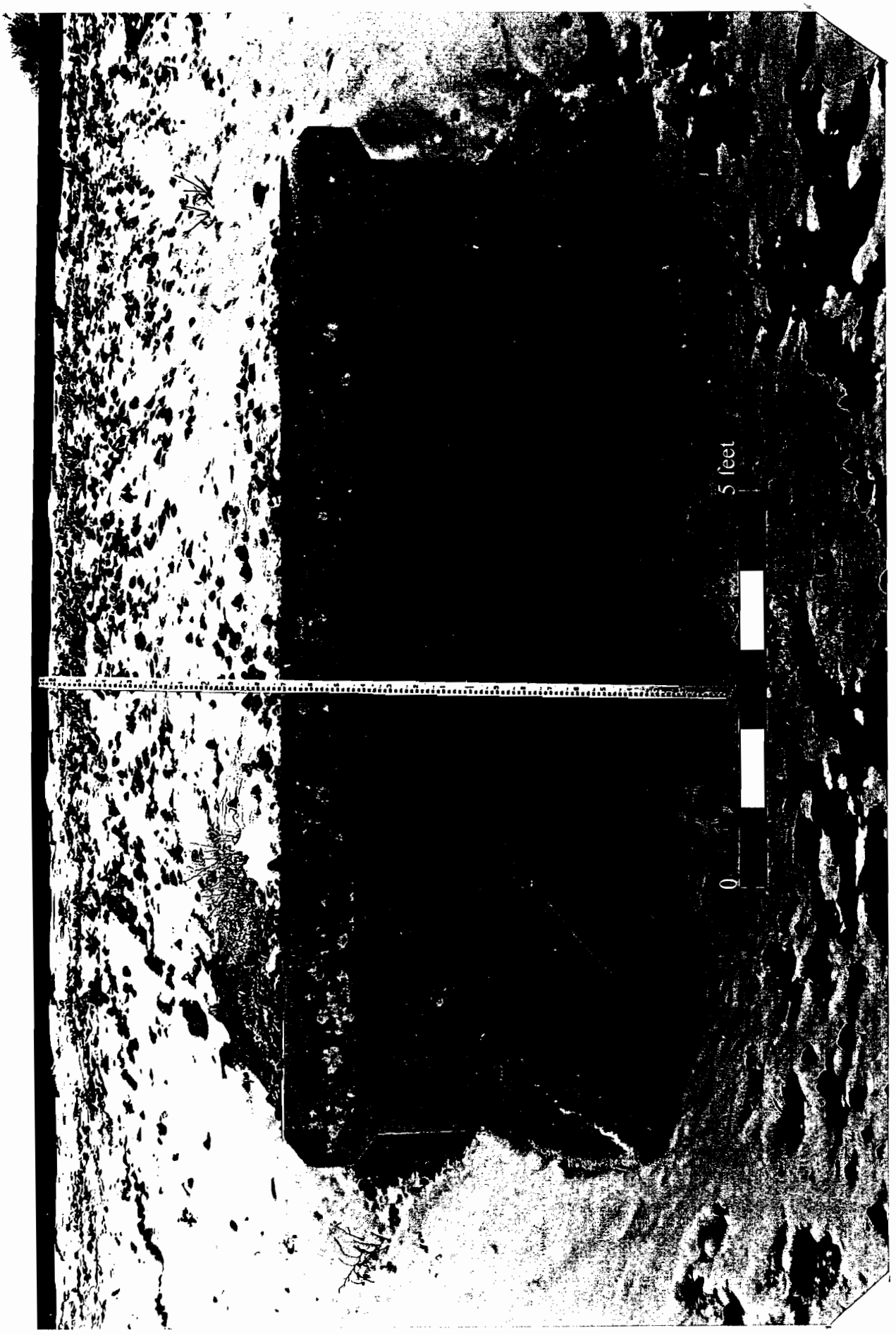

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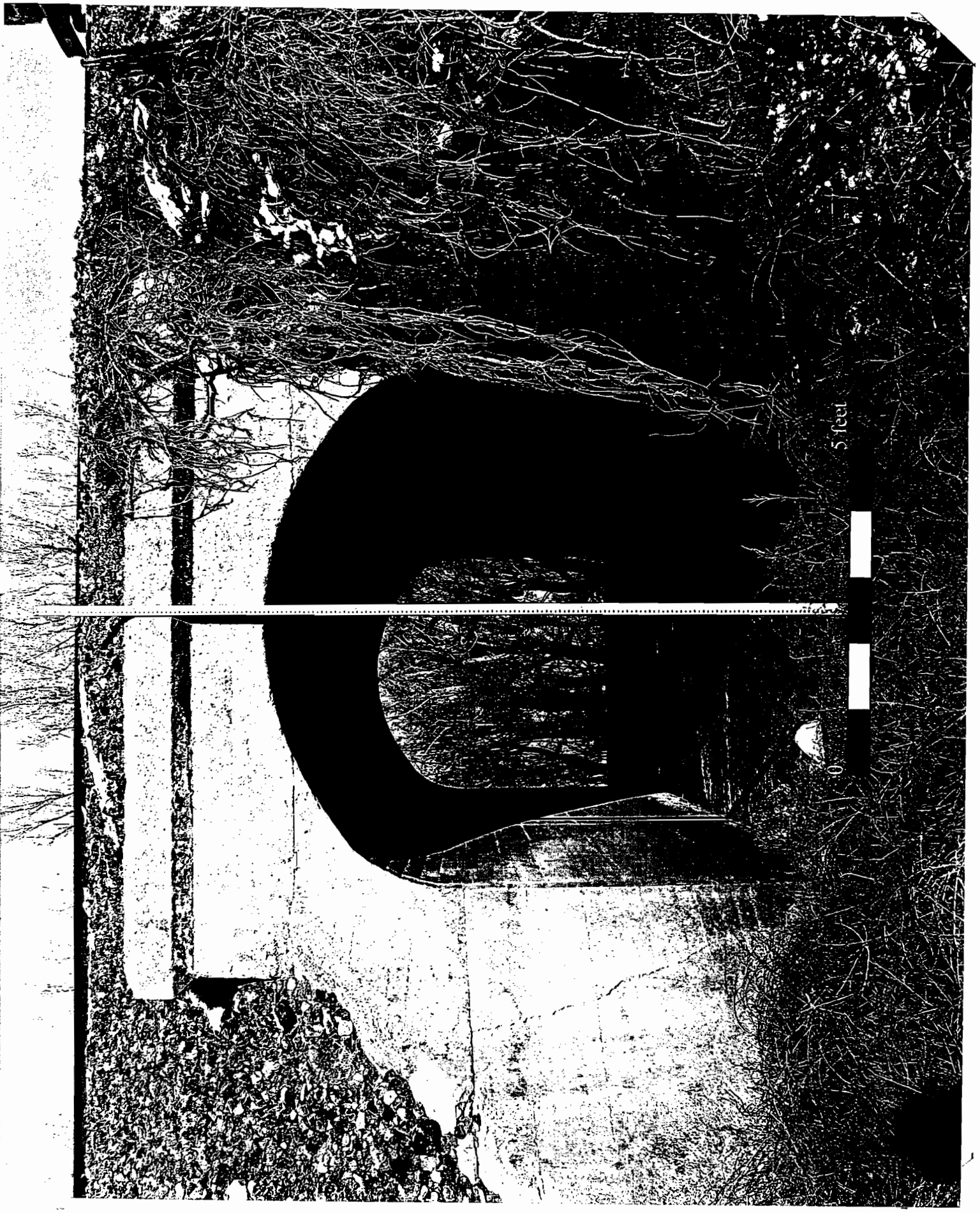

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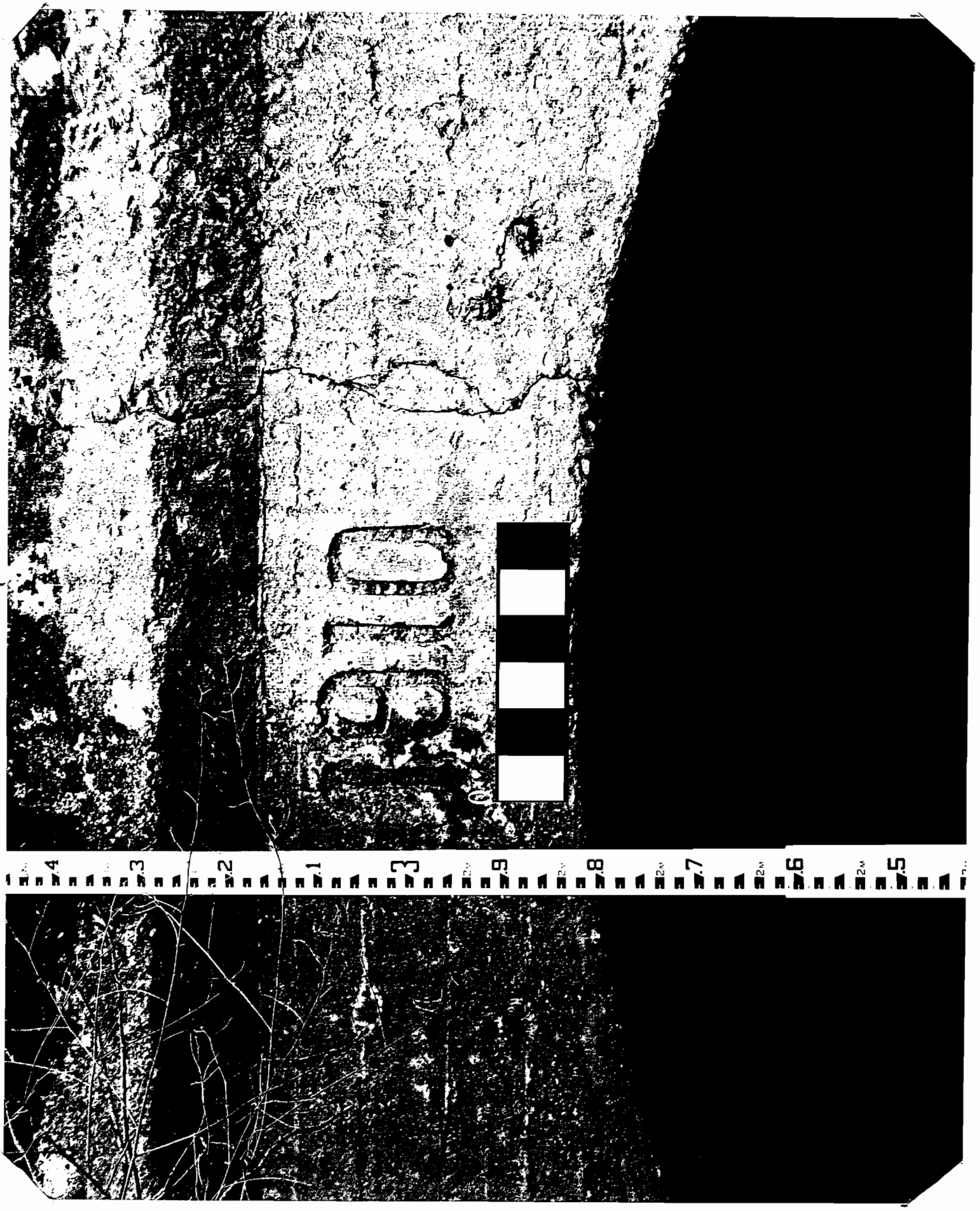

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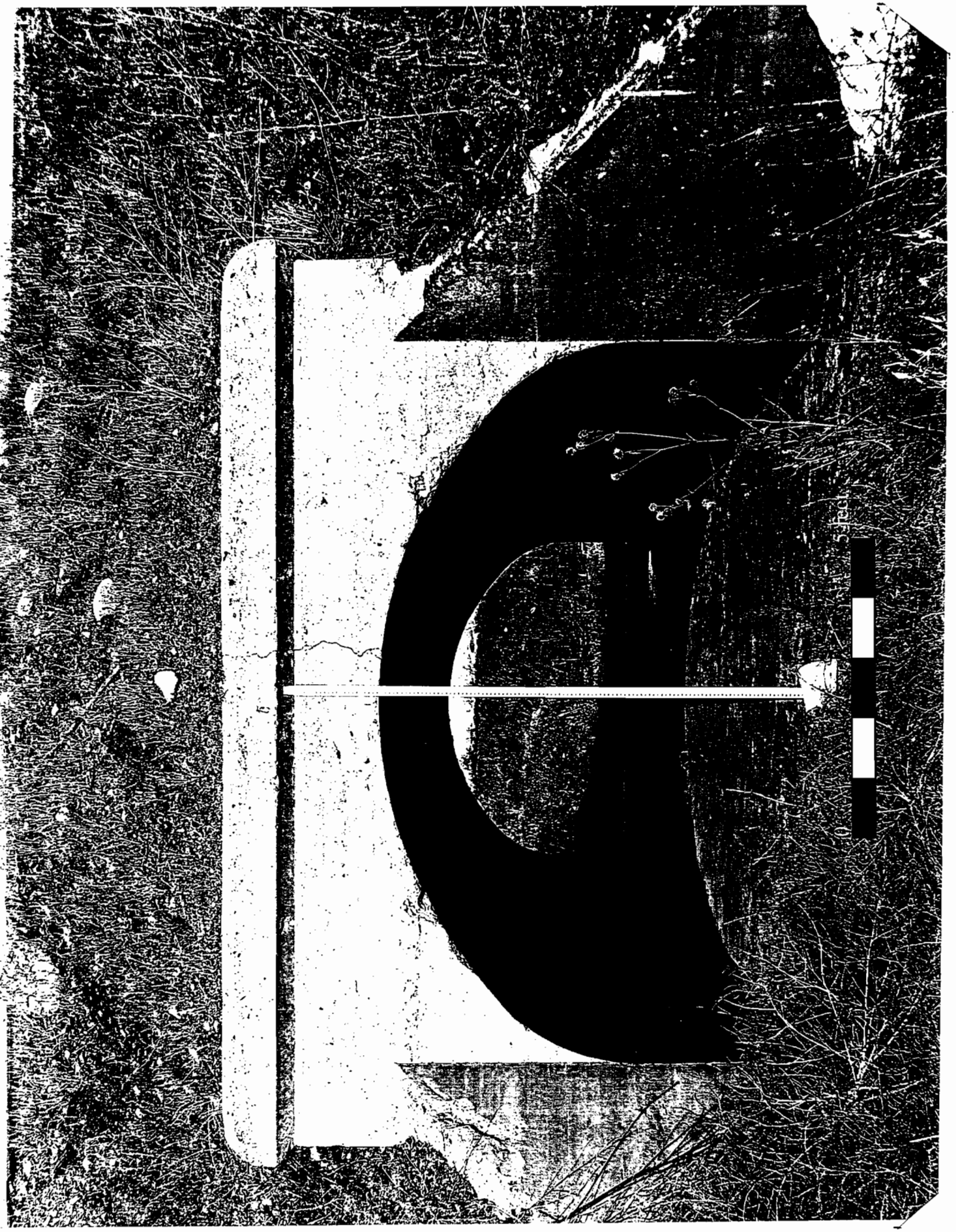

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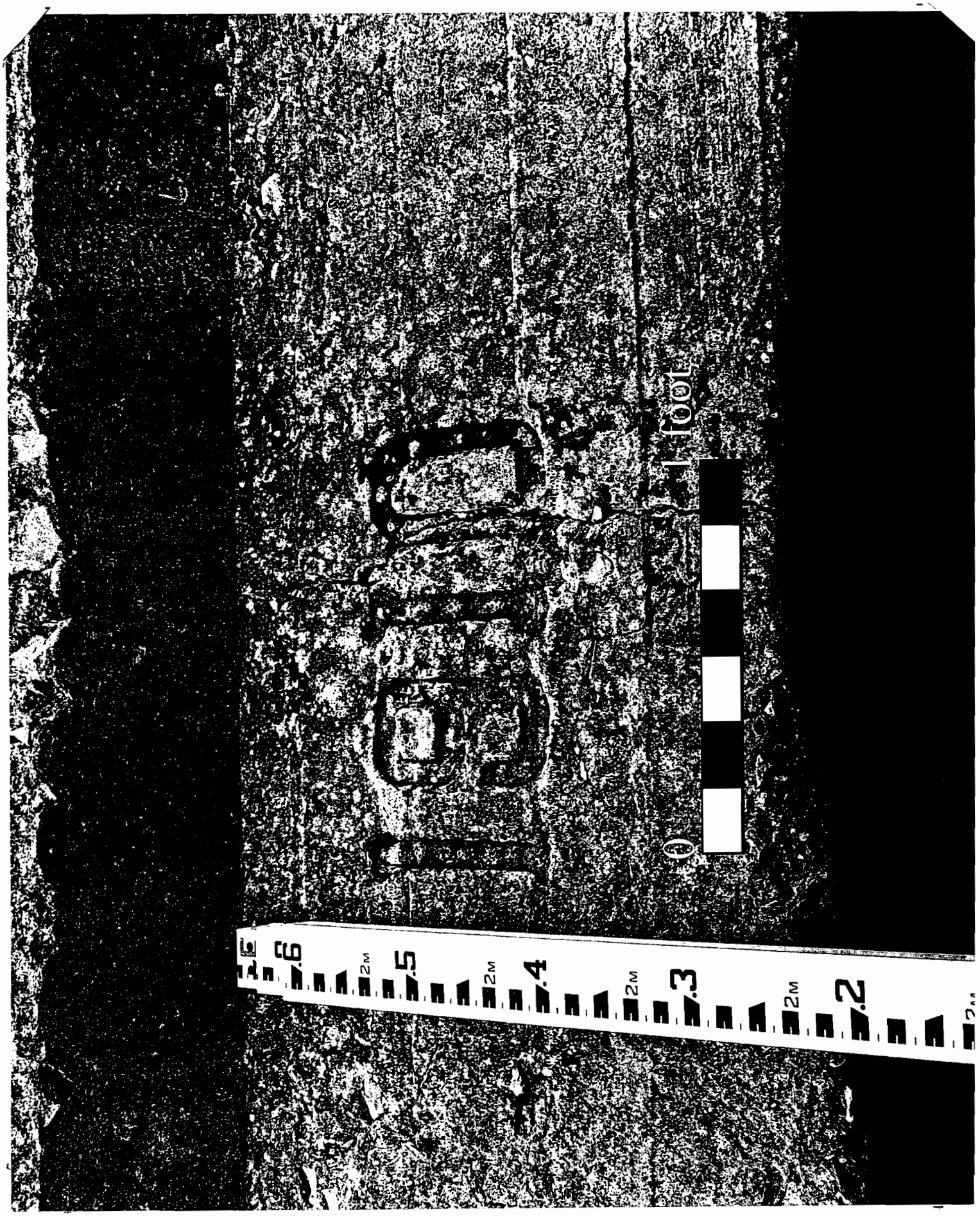

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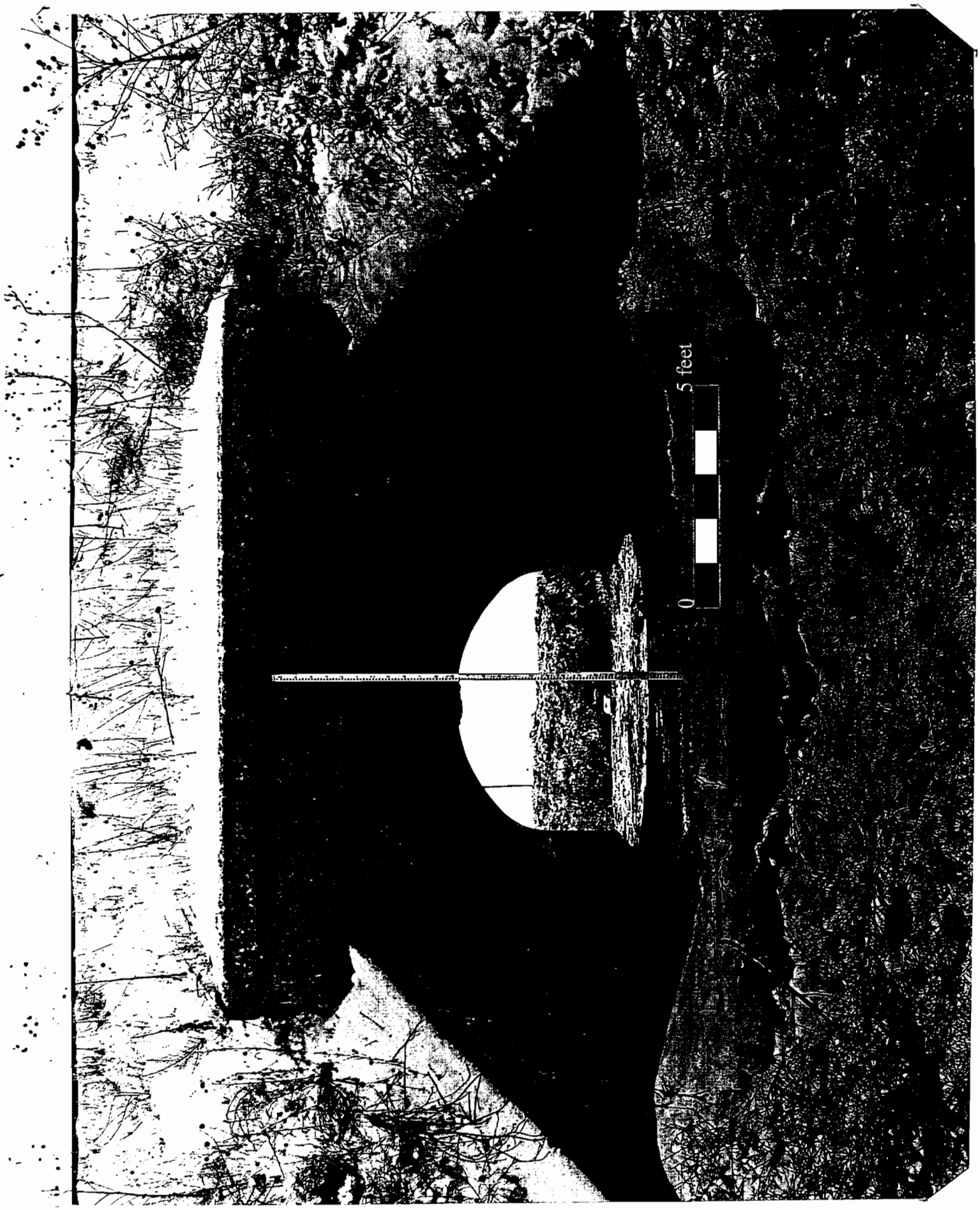

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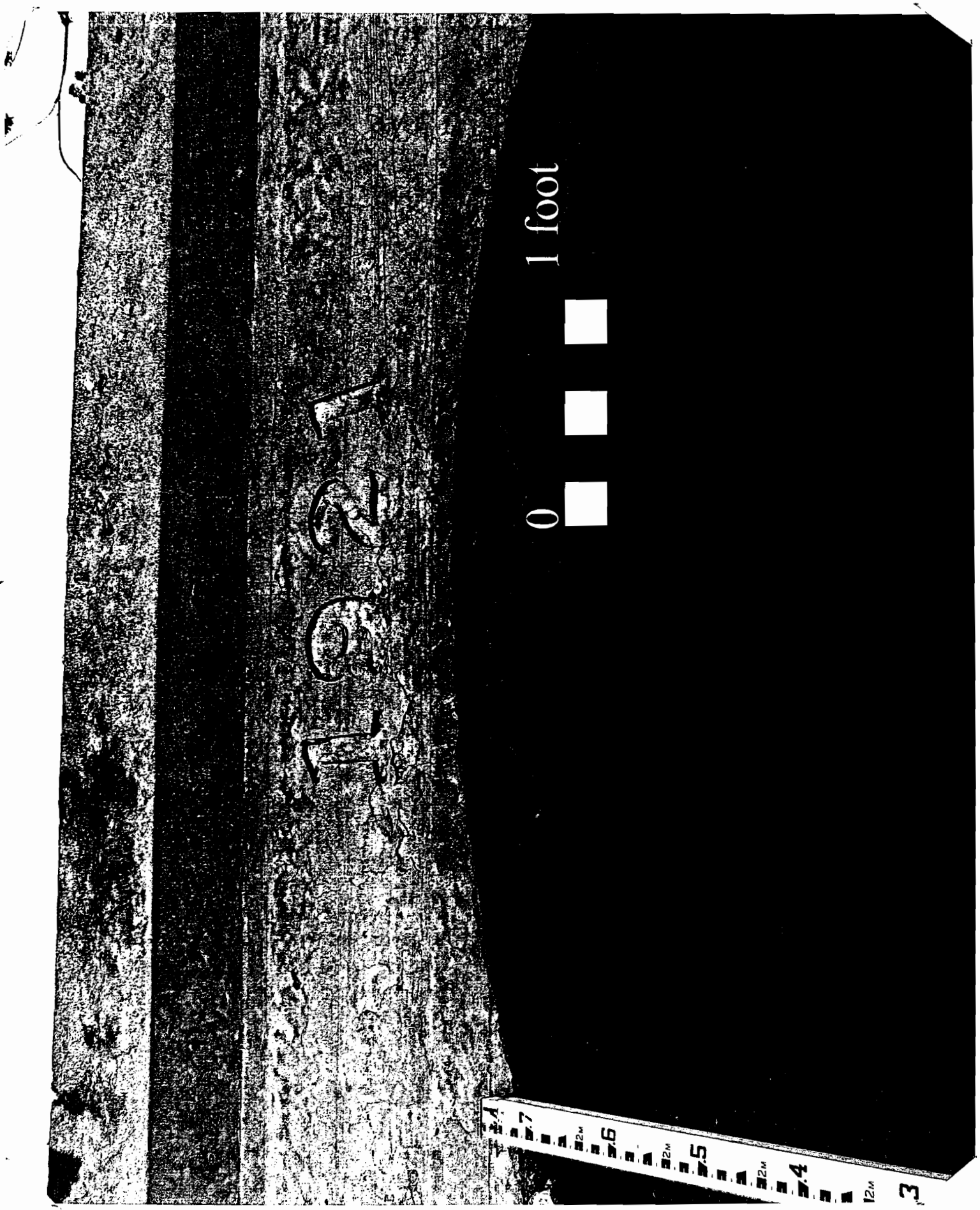

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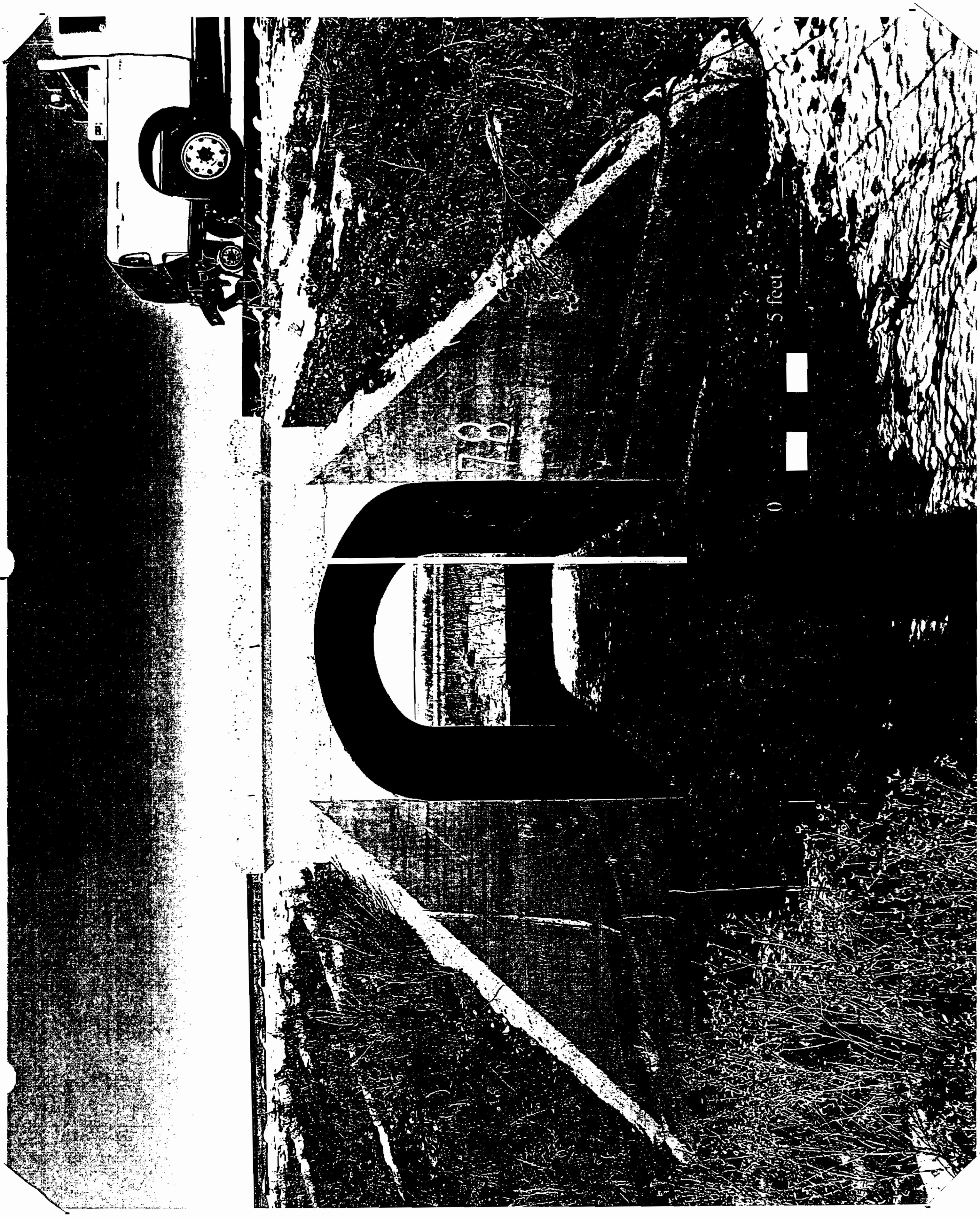

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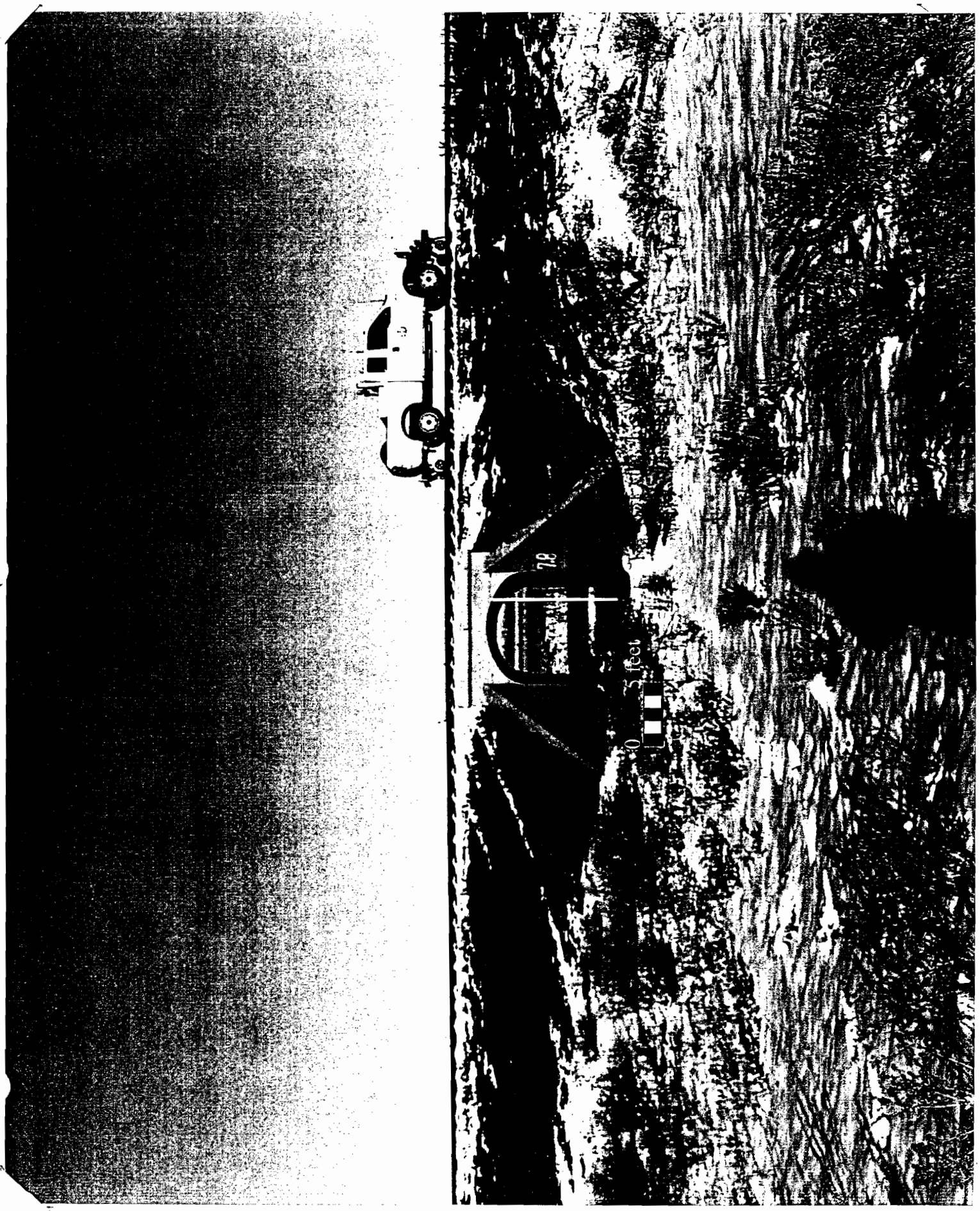

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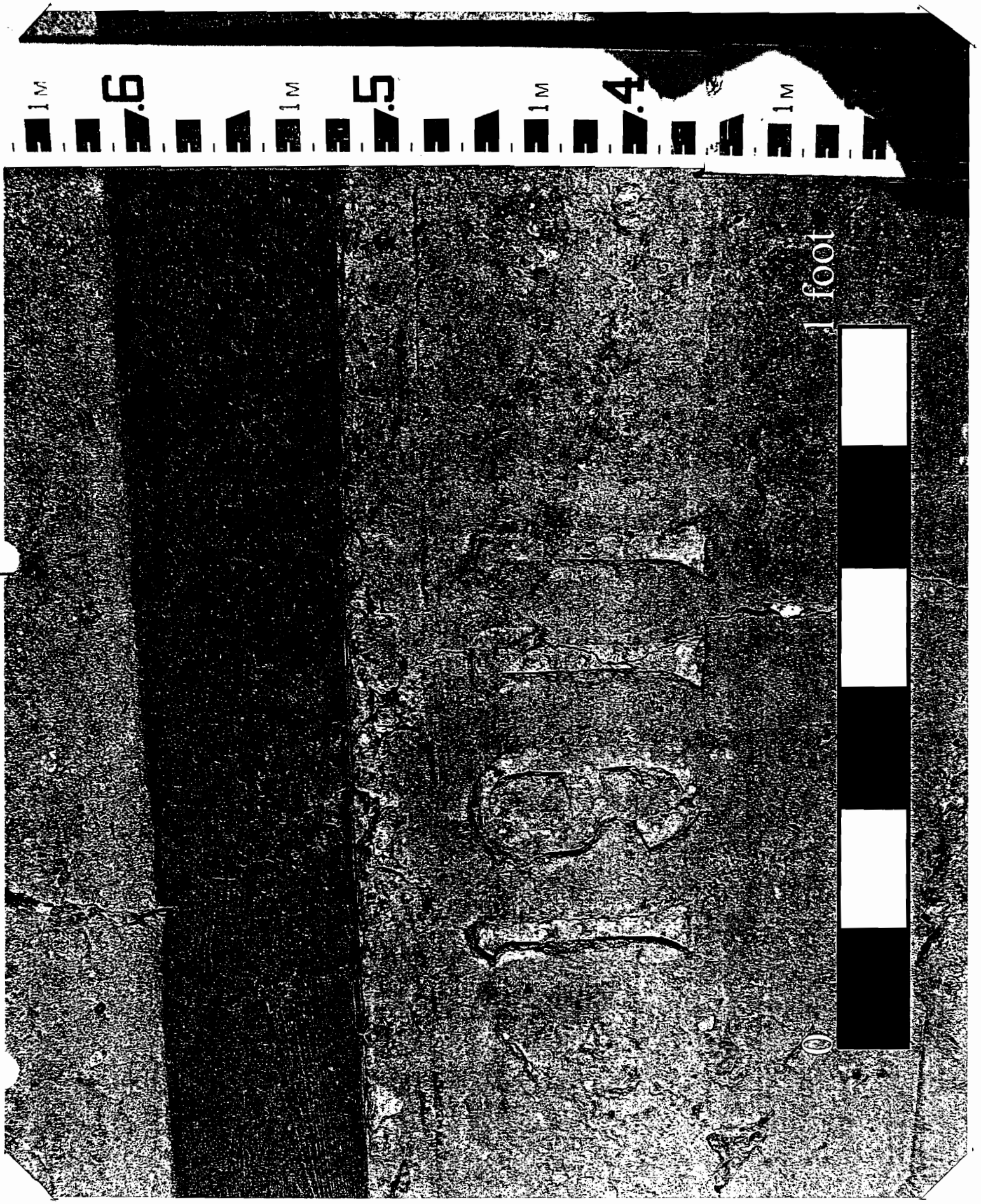

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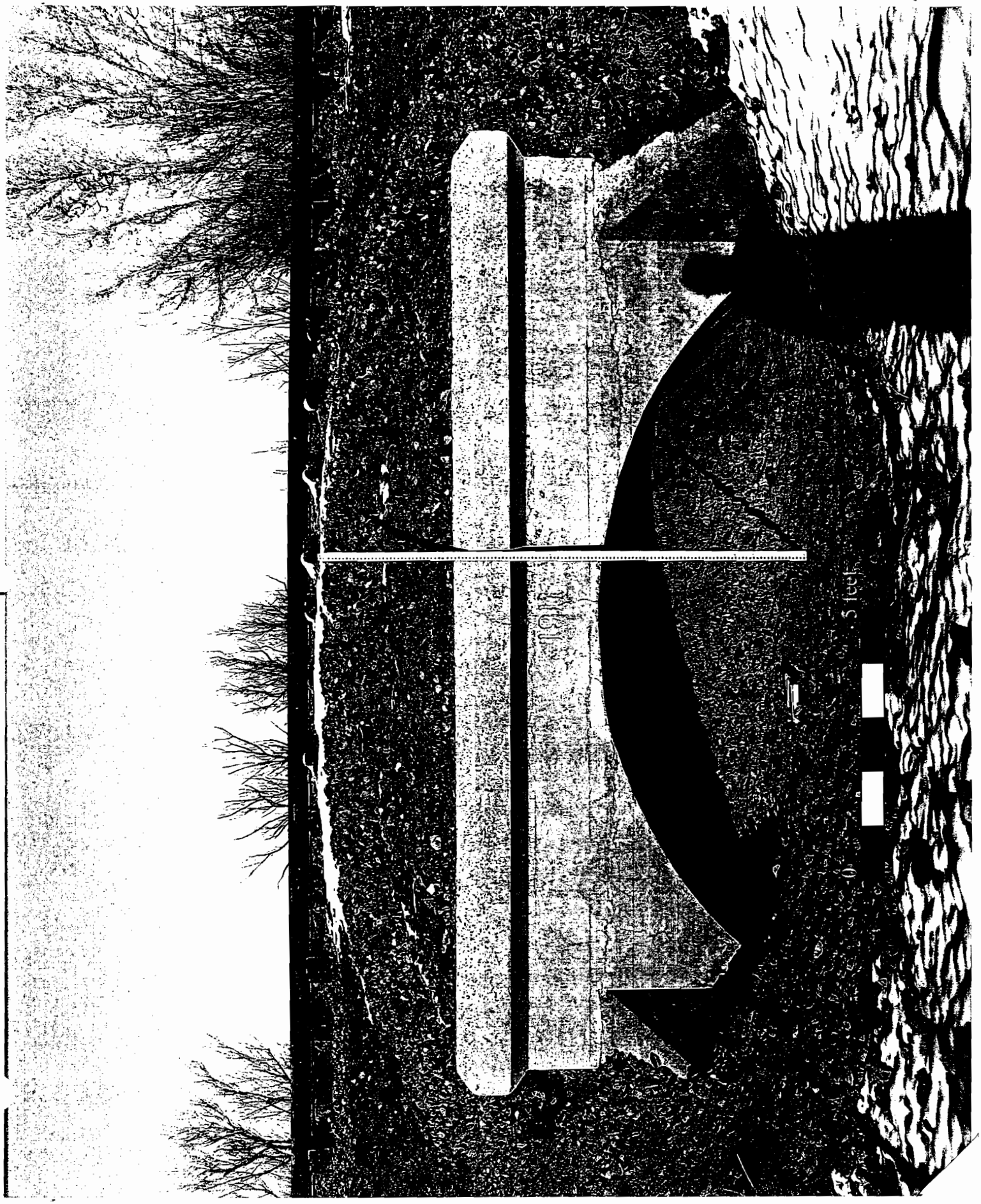

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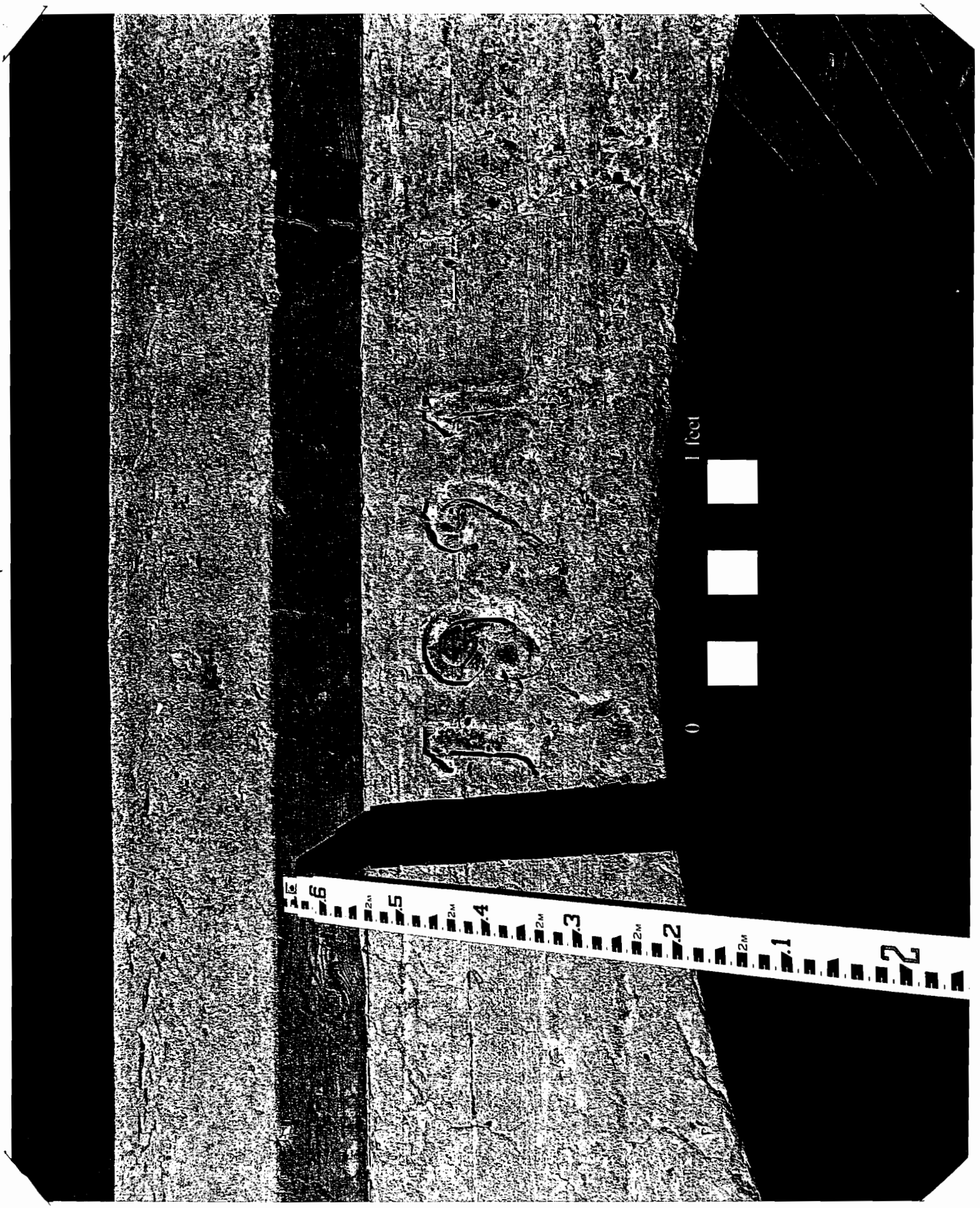

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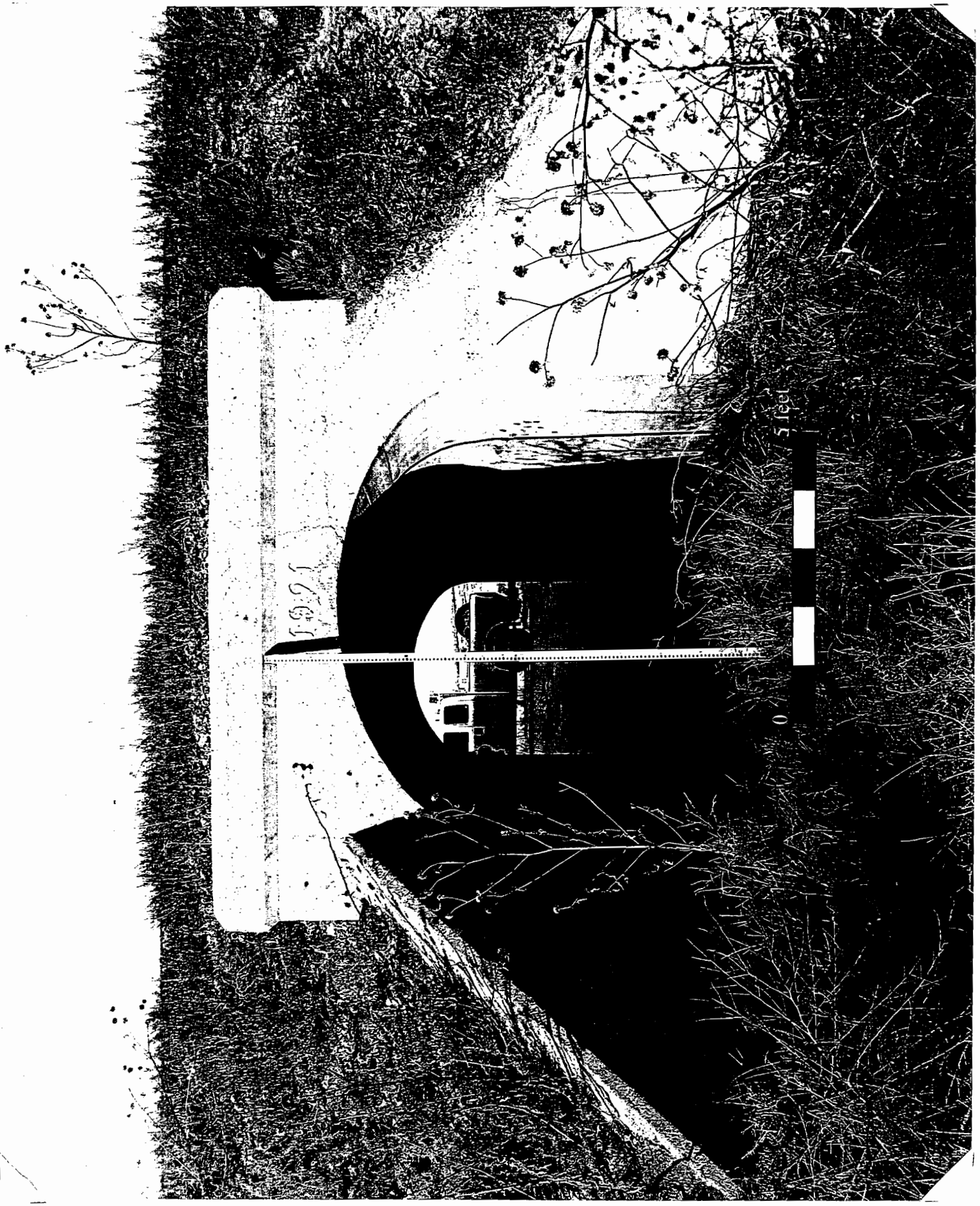

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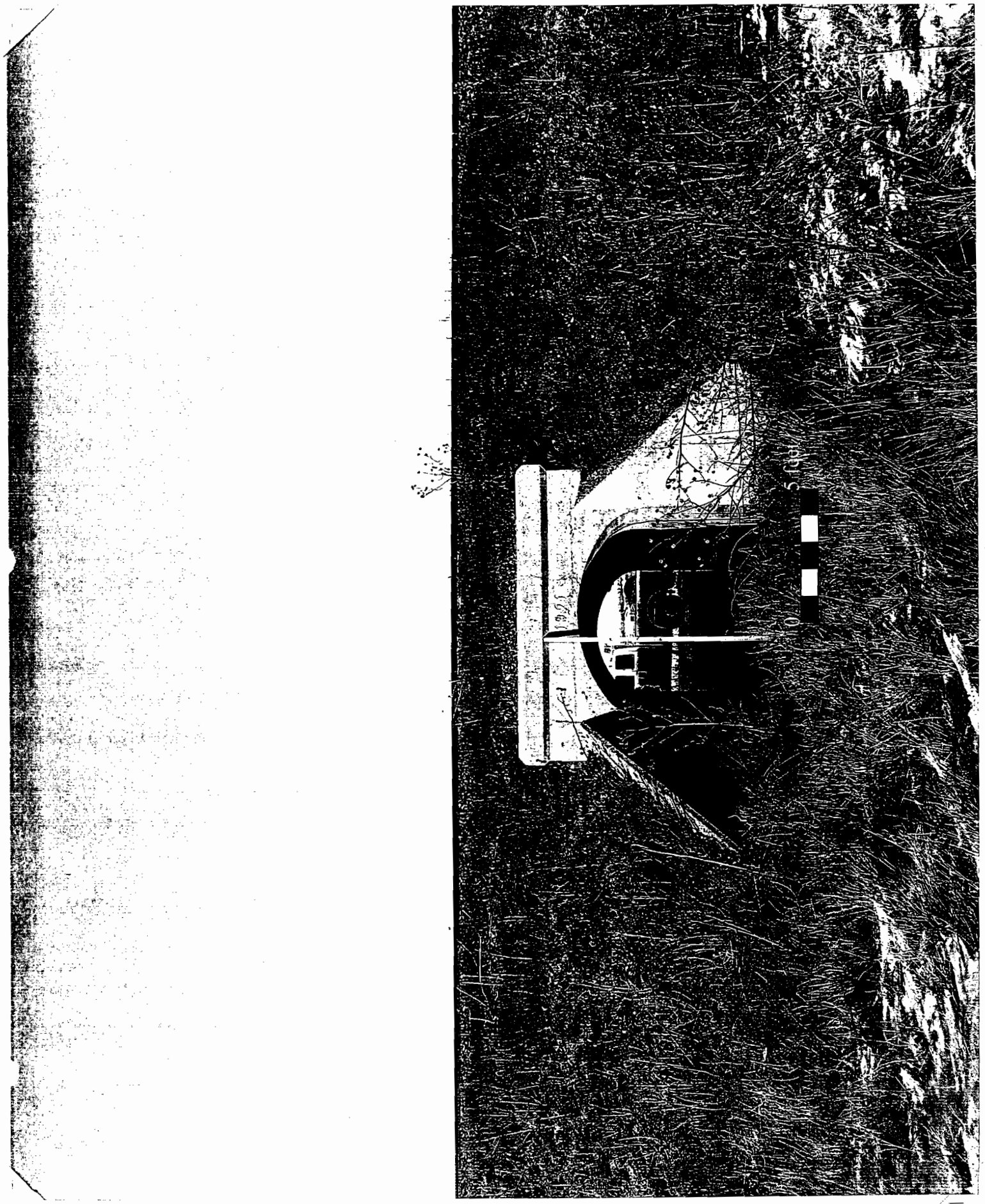

York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
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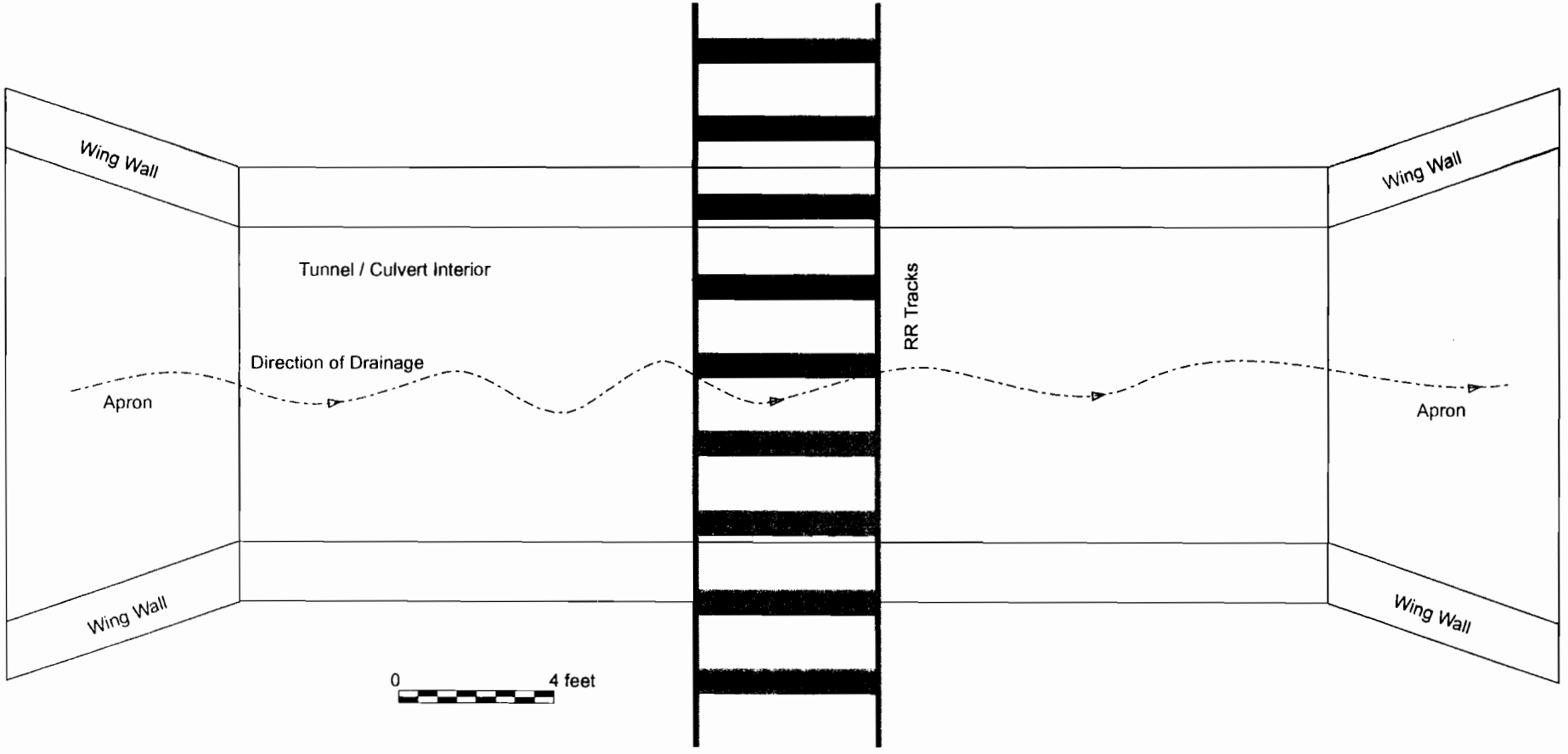
NMSHPO No. ____

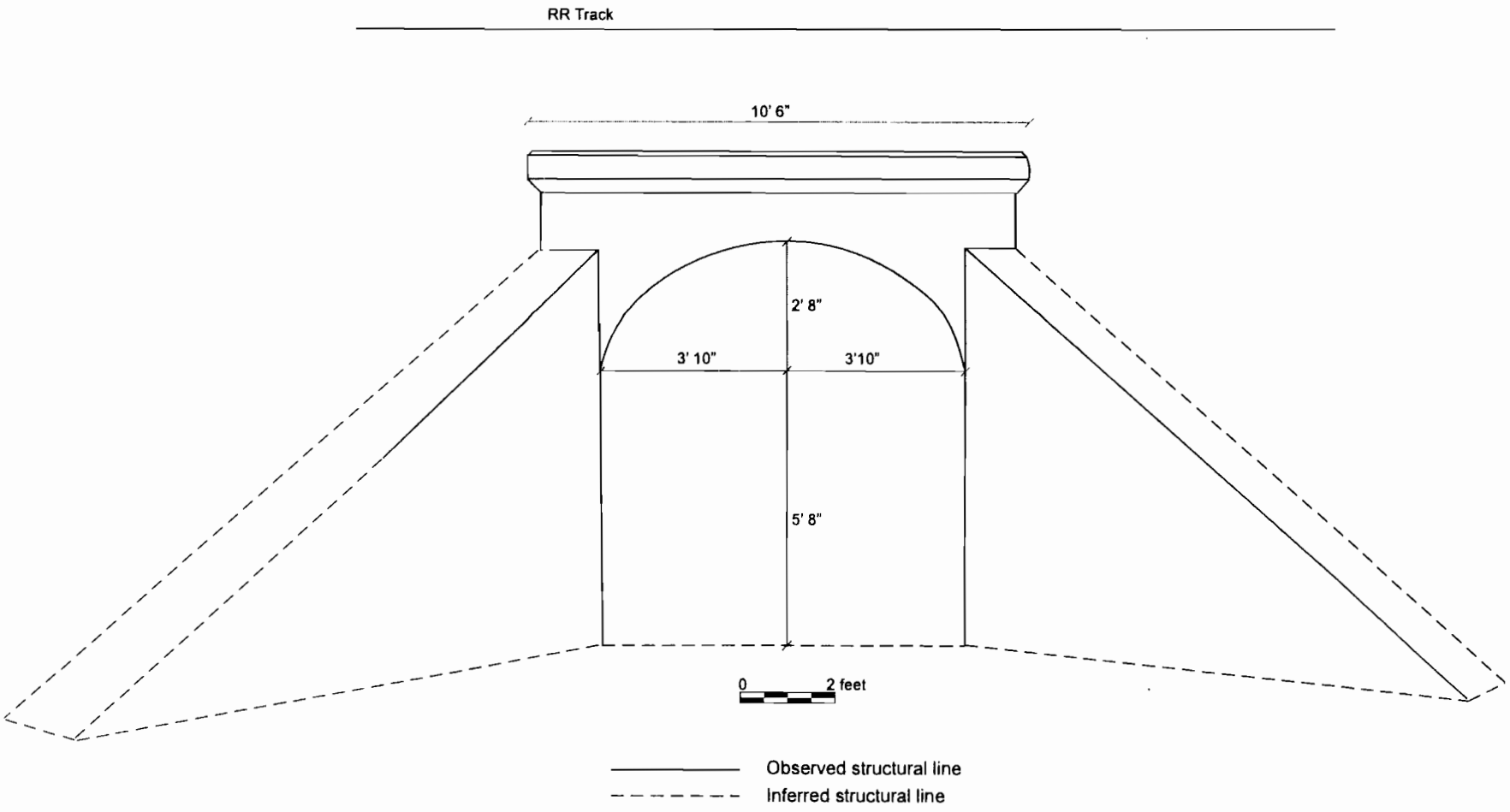
Plan View of typical culvert layout
Thru lengths range from 28 to 50'



York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
New Mexico

NMSHPO No. __

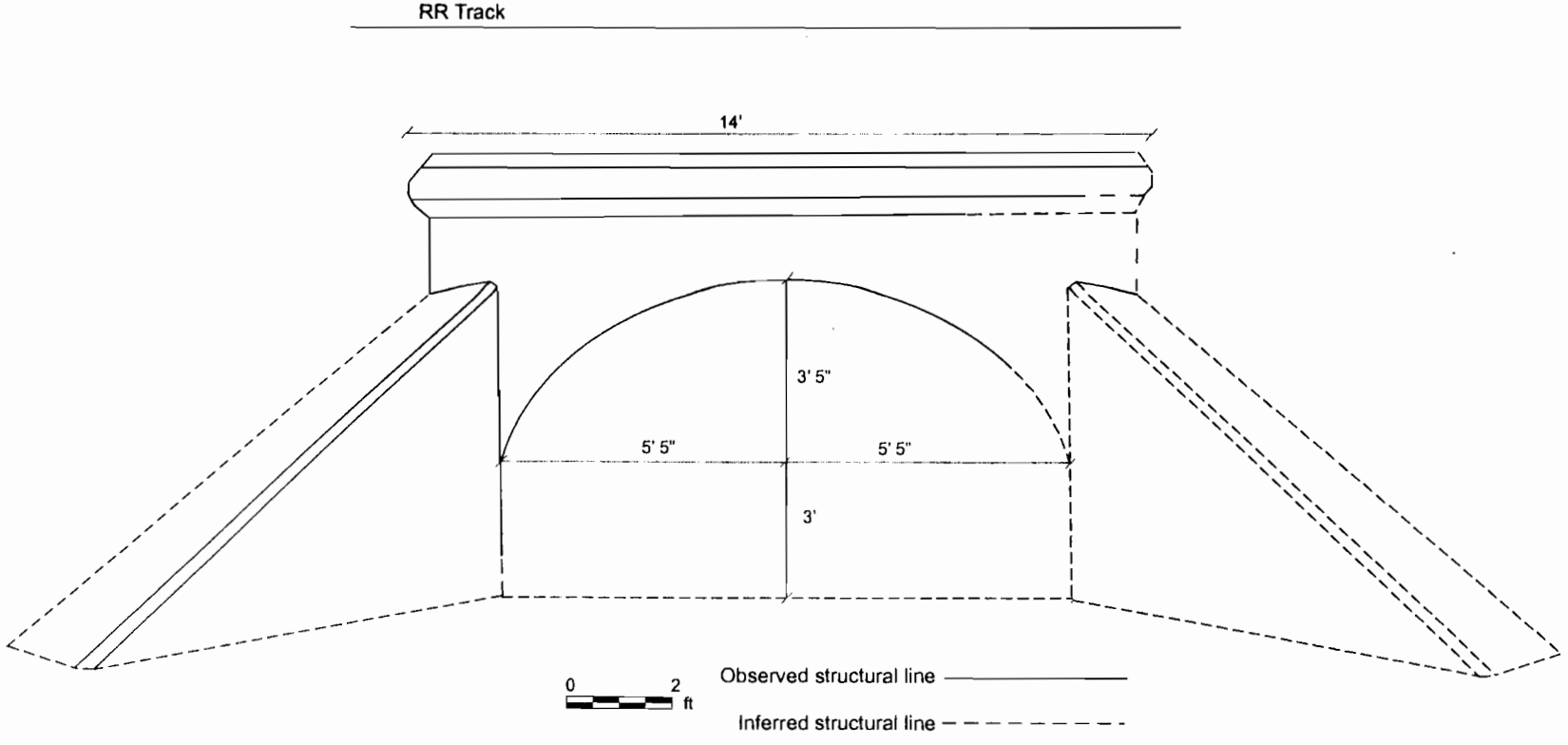
Milepost 17.2 Culvert, 1914
Easting 521130
Northing 4054944



York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
New Mexico

NMSHPO No. ____

Milepost 16.5 Culvert, no date observed
Easting 521616
Northing 4054035

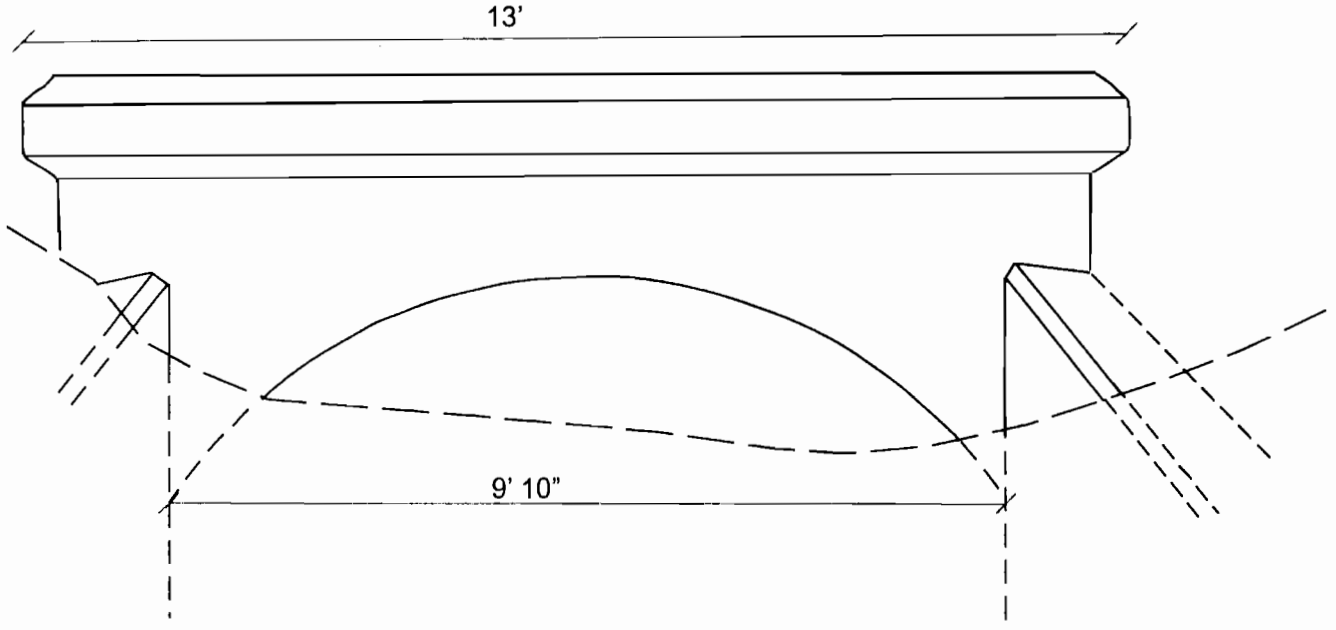


York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
New Mexico

NMSHPO No. ____

MP 14.5 Culvert, 1910
Easting 522588
Northing 4050922

RR Track



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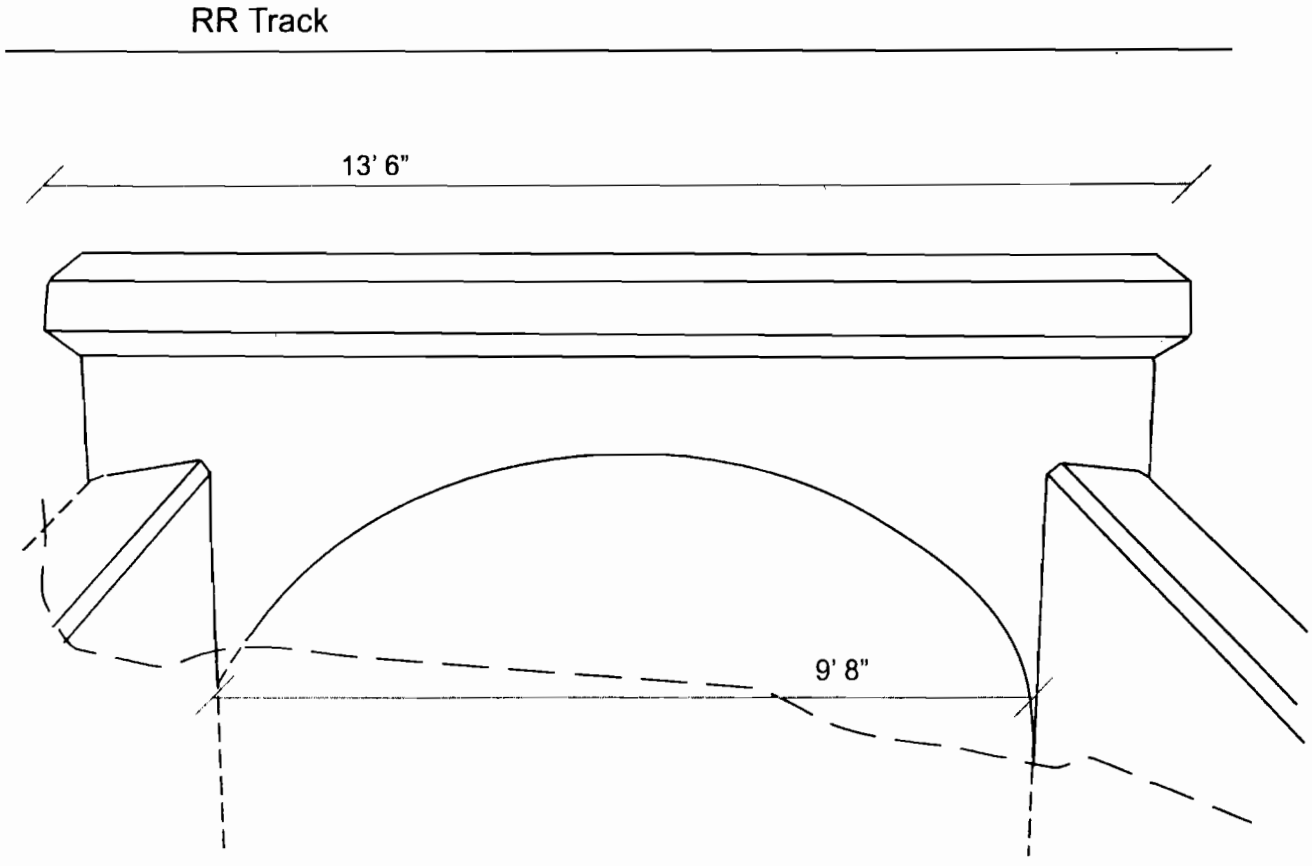
York ı yon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
New Mexico

NMS O No. ___

Milepost 12.6 Cı rt, 1910
Easting 524434
Northing 4048544



0 2 feet

Observed structural line

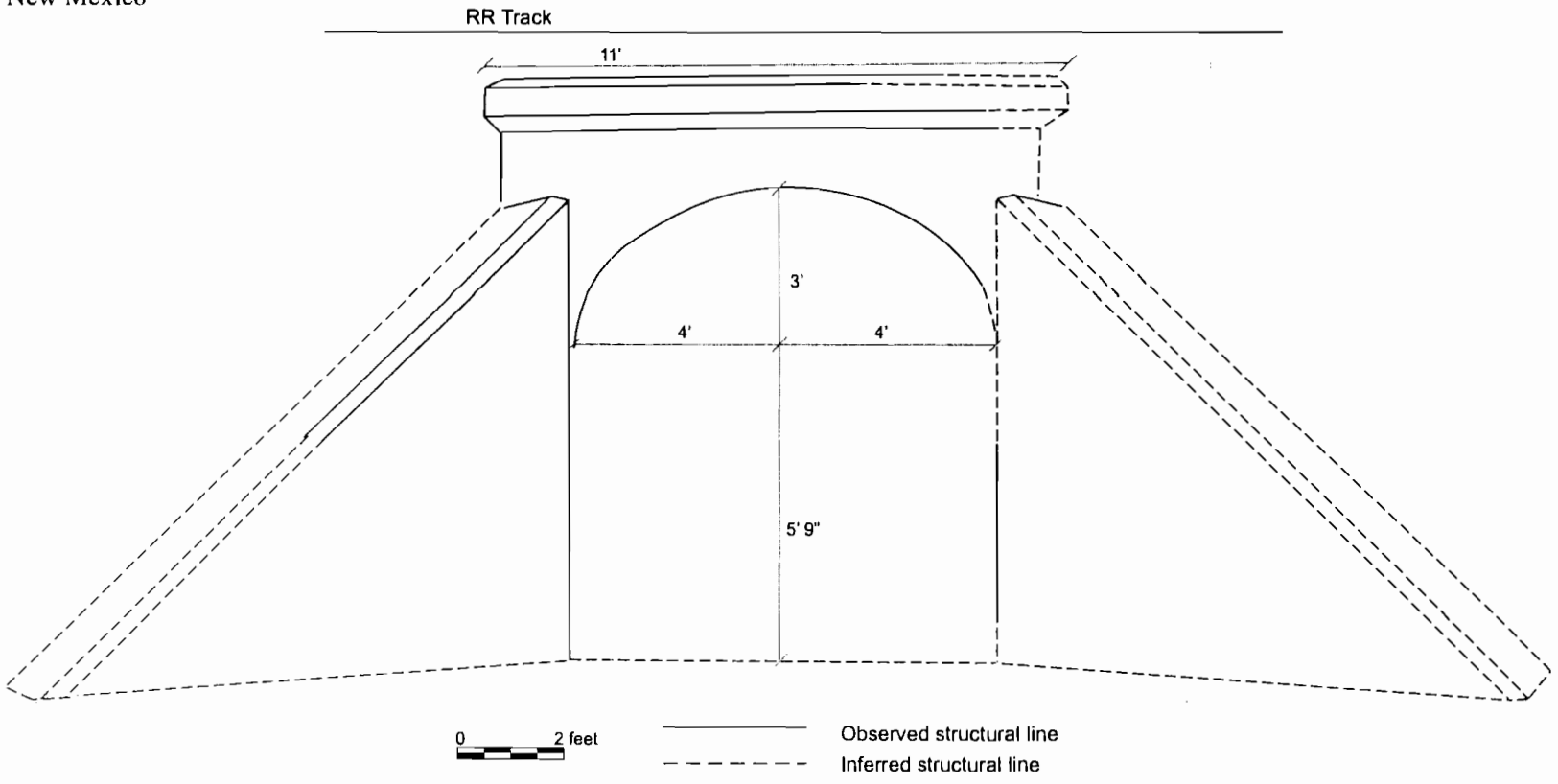
Inferred structural line

Ground surface obscuring culvert structure

York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
New Mexico

NMSHPO No. ____

Milepost 10.3 Culvert, 1910
Easting 527006
Northing 4045871



York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
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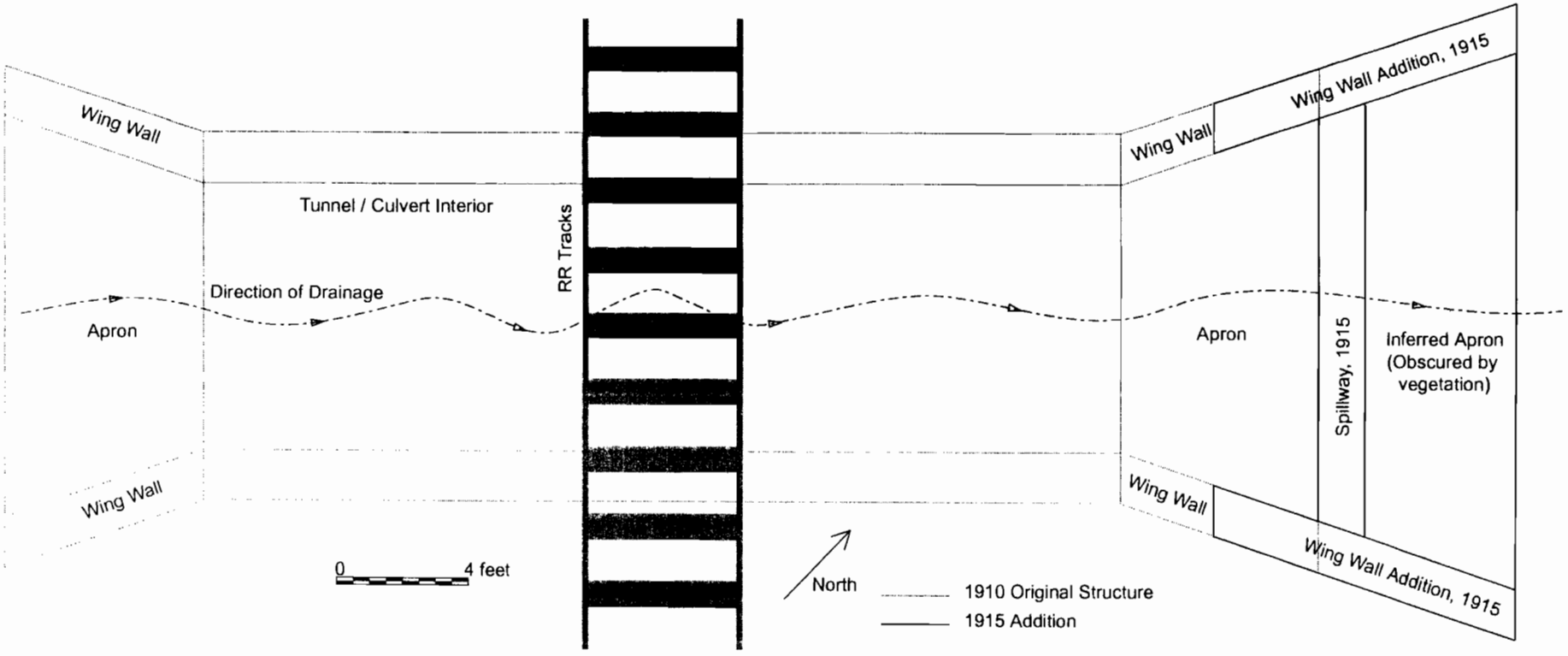
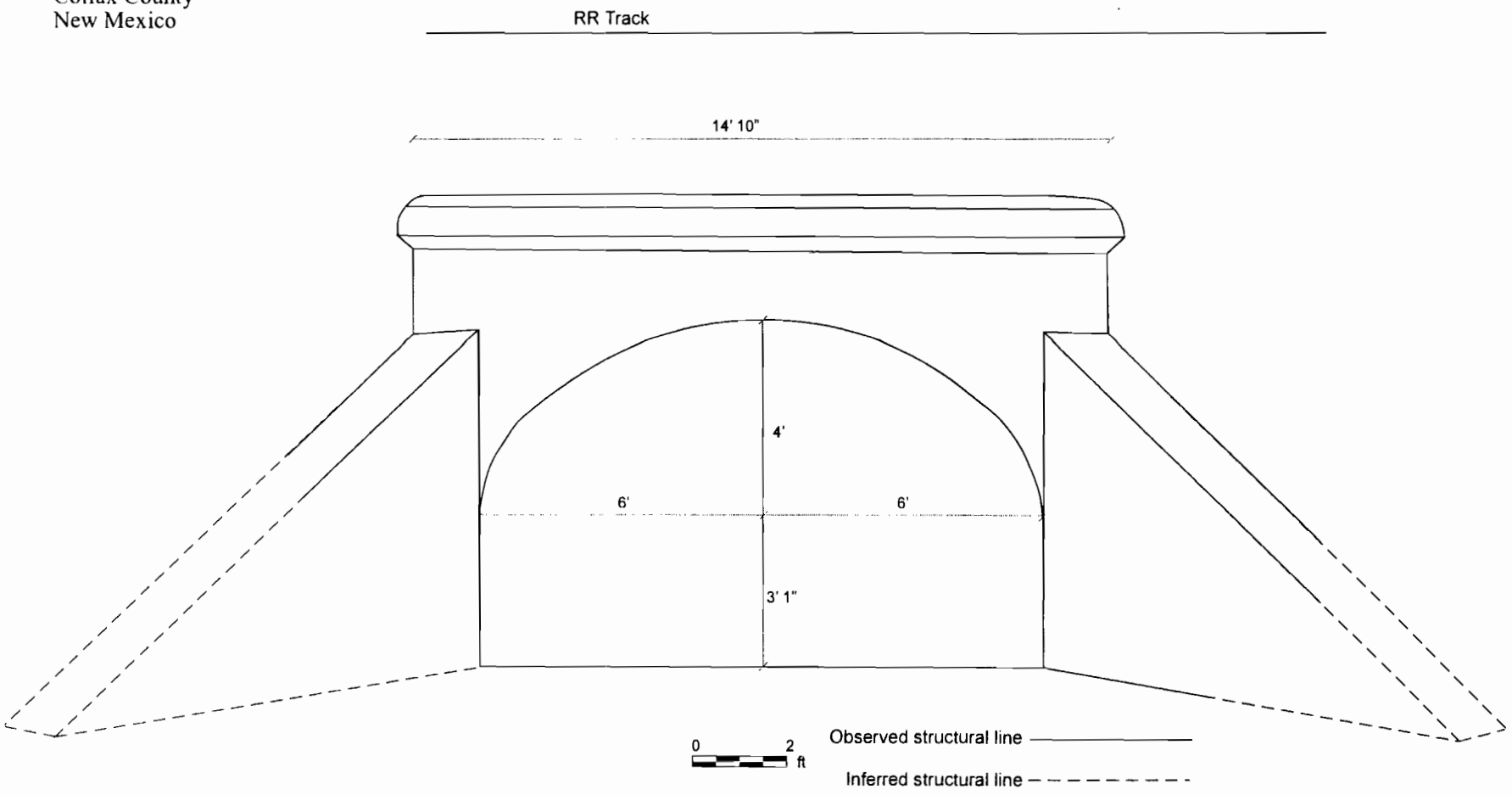
Milepost 10.3 Culvert, 1910
Plan View with 1915 Spillway Addition



York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
New Mexico

NMSHPO No. ____

Milepost 8.7 Culvert, 1910
Easting 528665
Northing 4043947



York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
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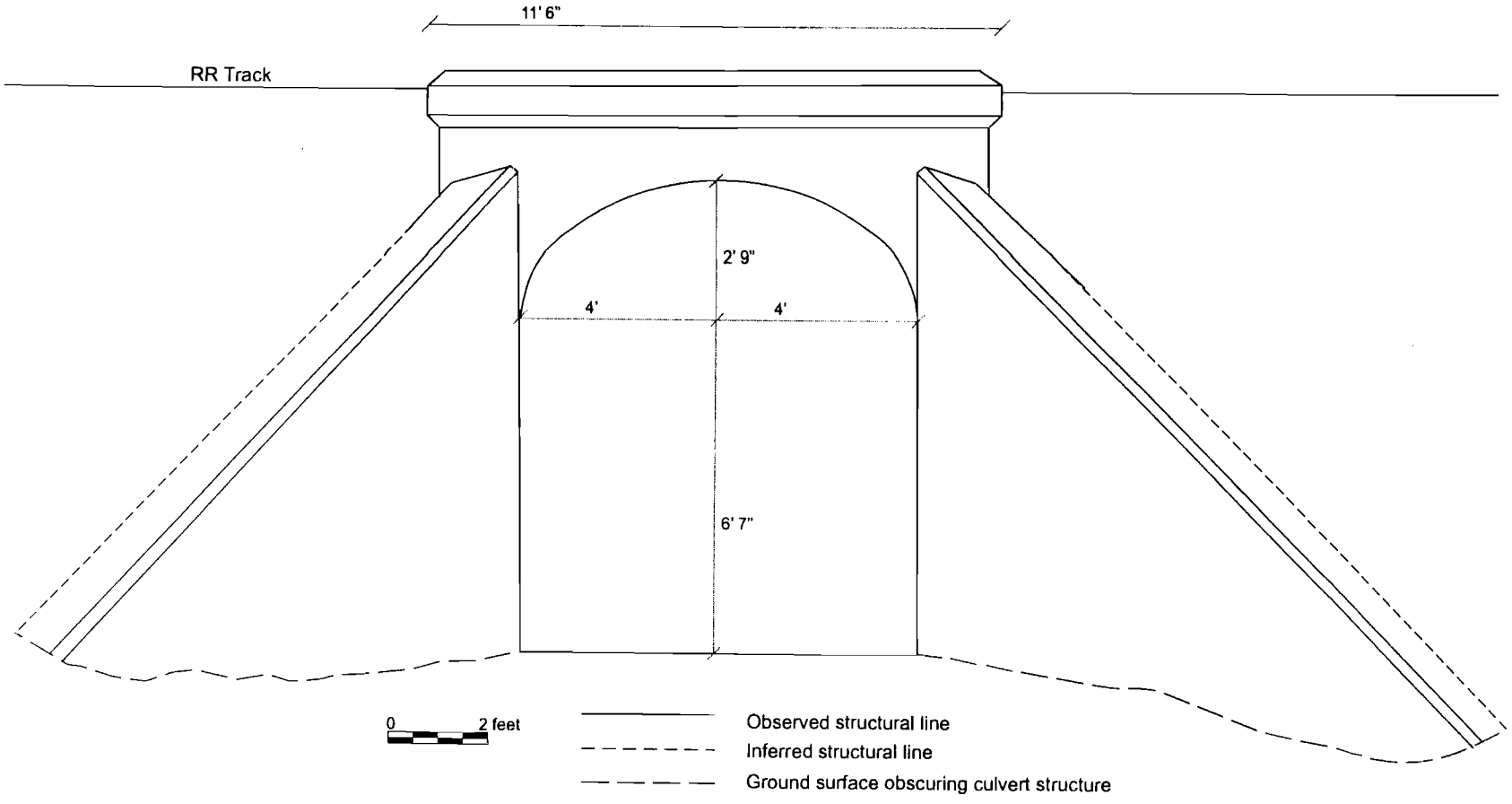
NMSHPO No. ____

Milepost 7.8 Culvert, 1921
Easting 529679
Northing 4042848



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York Canyon Branch, BNSF Railway
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Colfax County
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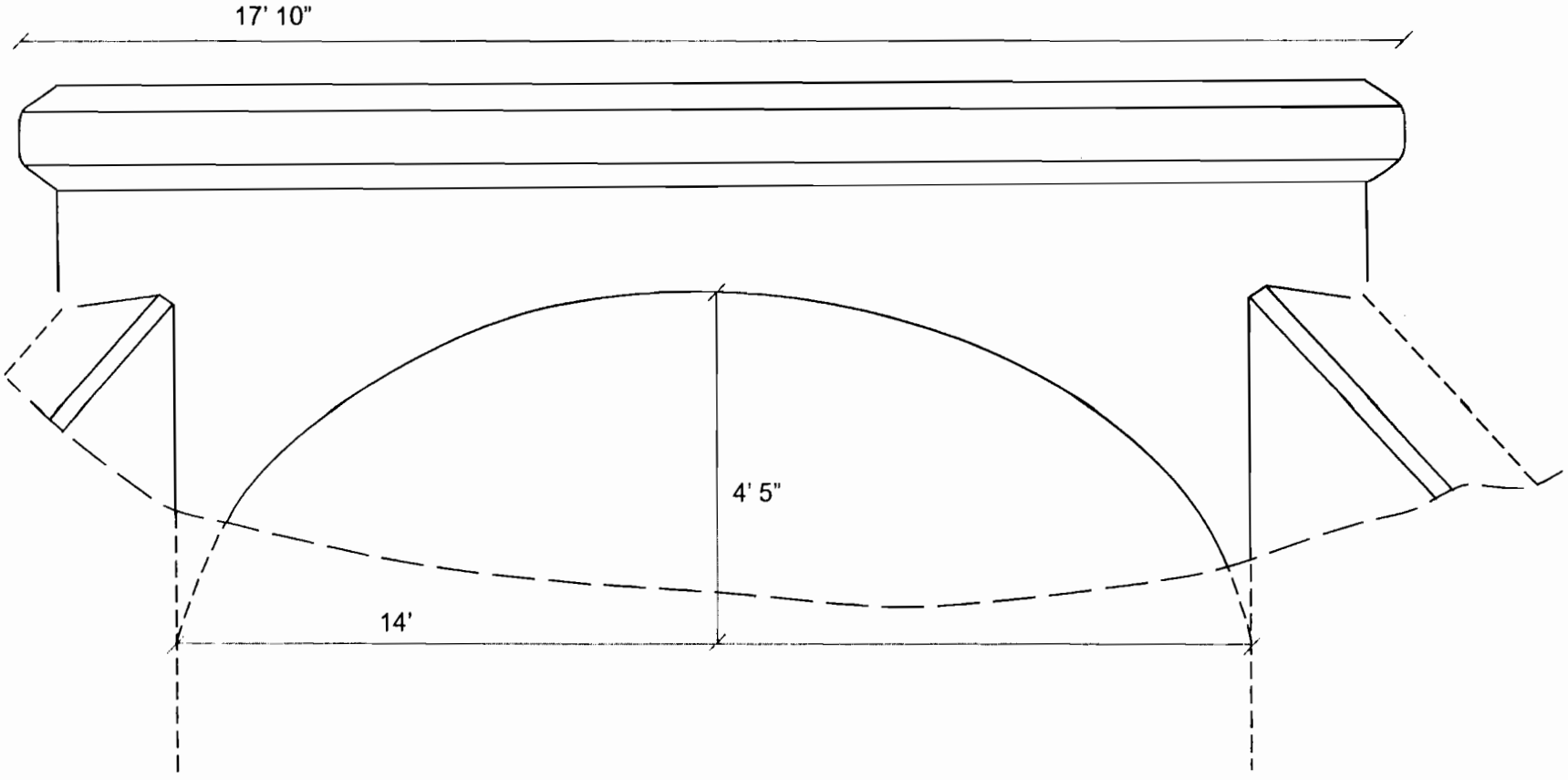
NMSHPO No. ____

Milepost 2.8 Culvert, 1911
Easting 535553
Northing 4037413

RR Track



York Canyon Branch, BNSF Railway
French to Dawson
Between Interstate Highway 25 and US Highway 64
Colfax County
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NMSHPO No. ____

Milepost 1.3 Culvert, 1921
Easting 537748
Northing 4036531